MEDICAL

TIMES

Journal for the Family Physician

November, 1959

HOARSENESS

LEUKEMIA, RADIATION AND FALLOUT

TOWARD THE CLINICAL INTEGRATION OF MEDICINE AND PSYCHIATRY



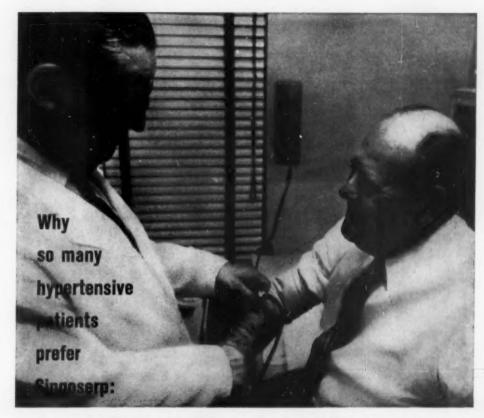
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*Herrmann, G. R., Vogelpohl, E. B., Hejtmancik, M. R., and Wright, J. C.: J.A.M.A. 169:1609 (April 4) 1959.



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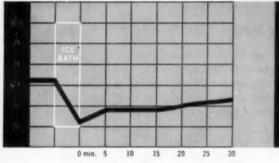
in peripheral vascular disease . . . direct, prolonged action

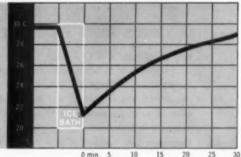
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Reference: 1. Kappert, A.: Schweiz. med. Wchnschr. 85:273, 1955. Bibliography: 1. Van Wijk, T.W.: Angiology 4:103, 1953. 2. Gilhespy, R.O.: Brit. M.J. 2:1543, 1957. 3. Gilhespy, R.O.: Angiology 7:27, 1956, 4. Winsor, T.: Angiology 4:134, 1953. 5. Reeder, J.J.: Geneesk. gids. 31:370, 1953.



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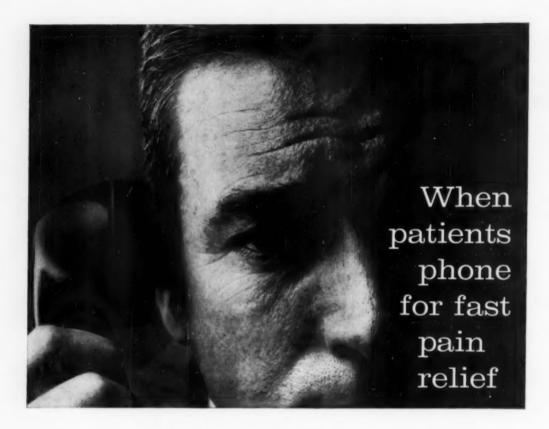
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Simon Ball, M.D.

Space Medicine: Research at the Air Force School of Aviation Medicine is in the capable hands of men such as Capt. Harold L. Bitter (left) and Capt. Roger A. Yeary. The fellow cooperating with them in their endeavors is Sam Space, Jr., who was born and raised at the School of Aviation Medicine, San Antonio, Texas. For more about this painting by Stevan Dohanos see page 262a.



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- 1 Harrisson, J.W.E.; Packman, E.W., and Abbott, D.D.; J. Am. Pharm. Assn. (Scient, Ed.) 48:50-56 (Jan.) 1959.
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- 3 Tebrock, H.E.: Ind. Med. & Surg. 20:480-482, 1951.
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- 6 Brown, R.K., and Mitchell, N.: Gastroenterology 31:198-203 (Aug.) 1956,
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- 10 Lange, H.F.: Gastroenterology 33: 770-777 and 778-788 (Nov.) 1957.

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1. Tietze, C.: Proceedings, Third International Conference Planned Parenthood, 1953.

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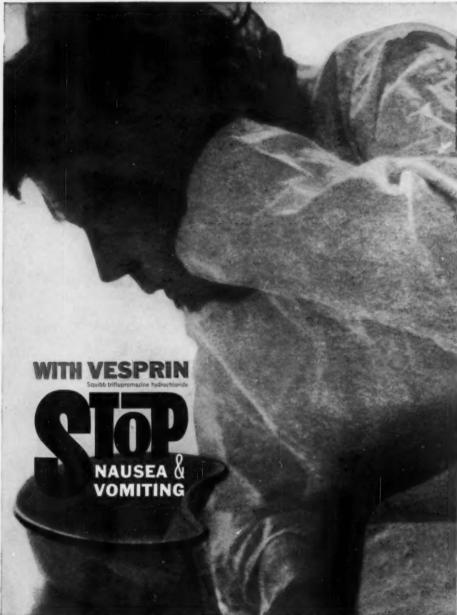
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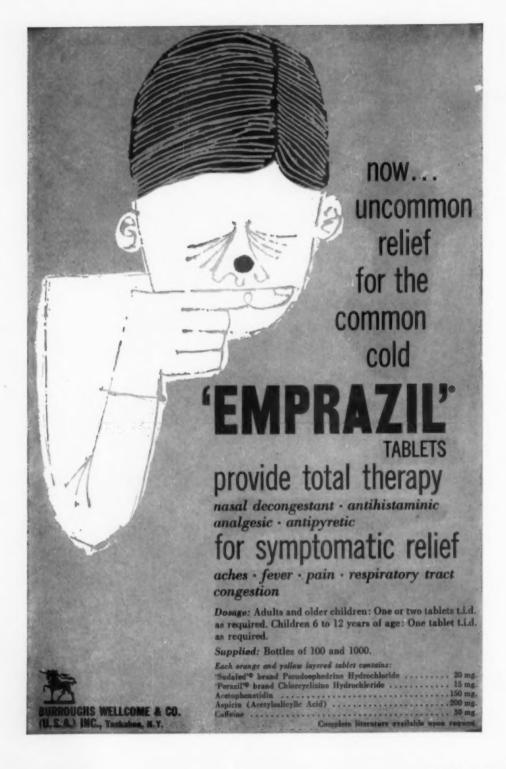
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1. Jones, E. H.: Eye, Ear, Nose & Throat Month. 38:460, 1959. 2. Lockwood, J. H.: Bull. A. Mil. Dermatologists 4:2, 1955.



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Batterman, R. C.; Grossman, A. J.; Mouratoff, G. J., and Leifer, P.; Scientific Exhibit, Annual Meeting of AMA, San Francisco, June 23-27, 1958.



Off the Record...

True Stories From Our Readers

Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported sculptulite figurine . . . an amusing cericature of a physician . . , will be sent in appreciation for each accepted contribution.

Are You There, Watson?

Some years ago, I was practicing in a community where there were a large number of Spanish-Americans. Frequently, they had no telephone of their own and went to some neighbor's home to call the doctor. Frequently, too, when they called, the true urgency of the situation had to be decided after due questioning.

One evening, just as I started to eat dinner, a man called and, in characteristic Spanish-American accent asked, "You come see my wife?" I asked what was wrong. He said, "She ees got mucho doloro." So I said, "Does she have a really bad pain?" Then came the punchline, in the typical Spanish swing: "I don kno-o-o-w. When I lef, she was rolling on the bed and screaming!" So I went at once—it was a gallstone colic!

E. F.P., M.D. Longmont, Colo.

Cured

Several years ago, we had a young lady as a patient who was married to an old gentleman and their family life was not too happy. This patient came to the hospital and remained two weeks. She was unable to void and required a retention catheter. Complete examination failed to reveal any true reason for this condition, and the patient was referred to a large university center where neurological examination was made with negative findings.

The patient was then referred to the State

Hospital for Nervous Diseases, to be treated with an electric shock treatment, and the family was so informed. They took the patient over to the mental institution and, when she arrived at her designated ward a gang fight among the mental patients was in full swing. She immediately voided large, copious amounts. The family returned home in great haste to obtain my advice.

I was contacted about 8 P.M., while making rounds at the hospital, and after the family told me what had occurred they asked, "Doctor, what would you do with her? Don't you think she has been shocked enough?"

I immediately replied, "By all means. Just go down and get her tonight and take her home." They did this and the patient has had no difficulty since.

> J. A. H., M.D. Russellville, Ark.

Poor Dogs

An elderly laborer, formerly seen in the Podiatry Clinic, was admitted to Staff Service recently, with a large aortic aneurysm. He was having no chest symptoms but presented a wonderful teaching case for the residents and students. There were many examinations and consultations, and the patient was becoming a bit fretful. I happened to be standing at the nurses' station on the ward one day when our patient

Concluded on page 29a

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shuffled up complaining, "Dey 'xamines me over and over—talkin' 'bout annarizm dis and annarizm dat—it's mah FEETS dats killin' me."

M.D.H., M.D. Washington, D.C.

By Gar

In the early days of my practice in urology, about 75 percent of my cases were venereal. The reception room was usually crowded, chiefly with young men. One afternoon I heard a roar of laughter, which rang through three floors of the Arts Building. Investigating, I found that an overweight female, filled with curiosity, had begun asking each gentleman what he was being treated for. Their answers had been headache, backache, toe ache, etc., until she came to a tall, ten gallon-hatted Texan who answered, "I got the clapp, by gar!" Thus, the uproar.

T. M. B., M.D. Hot Springs, Ark.

Fore or Aft

As one of my OB patients walked out of my consultation room, she turned to me and asked, "Where is the head?"

Knowing that she was a Navy man's wife and thoroughly familiar with Navy jargon, I replied, "Room No. 7—down the hall."

It was only after she blushed and mumbled something about the baby did I realize that she was referring to the baby's head!

> H. A. B., M.D. Denver, Colo.

Prescription Punch

Just before a recent holiday, an old lady came to my office for her monthly check-up. Along with her came her daughter (single) age 22. During the office visit, the daughter inquired if her mother could join the rest of the family in celebrating the coming holiday, with an alcoholic beverage. At first, my answer was no, but after a pause I said "O.K. She can have

Scotch or Vodka on the rocks." After a short pause, the daughter said, "Scotch or Vodka on the rocks?" I said, "Yes." Then she said, "Do I have to get any special kind of rocks?"

B.J.B., M.D. Bristol, Conn.

Give Me a Sloane

One of my patients, an elderly woman, had been given the works—all the best that a good modern hospital could supply: x-rays, medicines, oxygen tent, everything that could conceivably help her to recover. But she called for me so urgently that a nurse ran after me and I hurried back. "Doctor," pleaded the old lady, "make them give me some liniment for my chest. It's sure to make me feel better!"

D.D.M., M.D. Smithtown Branch, N.Y.

Type C

The sweet young thing had been very patient during the rather lengthy examination. She listened attentively while I explained treatment and medication to her. But when I told her to douche with one tablespoon of white vinegar to a quart of warm water, a look of bewilderment came on her face. "Doctor," she finally brought out, "my husband likes only cider vinegar!"

S.W.G., M.D. Brooklyn, N.Y.

Green. Go

A woman patient recently came to me with the following note:

"Dear Doctor,

I can't speak English but I hope you understand this. I want you to give me a healthy card because I have a little business of my own and this is the address."

The address she gave is the red light district of a local city.

S.E.T., M.D. Richmond, Texas

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Diagnosis, Please!

Edited by Maxwell H. Poppel, M.D., F.A.C.R., Professor of Radiology,
New York University College of Medicine and Director of Radiology, Bellevue Hospital Center

Sixty-three-year-old male. Chief complaint—Colicky abdominal pain of 3 weeks' duration. Relieved by passing gas.

Which is your diagnosis?

- 1. Ca. of transverse colon
- 2. Intussuscepting Lipoma in transverse colon
- 3. Polyp in transverse colon
- 4. Ileo-colic intussusception

(Answer on page 260a)





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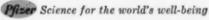
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PRECAUTIONS: Side effects are infrequent and mild, and often lessened or eliminated by a reduction in dosage. Hypotensive effects have rarely been noted and no jaundice or other evidence of liver damage has been reported in patients receiving NIAMID. However, in patients with a history of liver disease, the possibility of hepatic reactions should be kept in mind. Despite dramatic relief of symptoms and increased sense of well-being in anginal cases, it is advisable to caution the patient against overexertion.

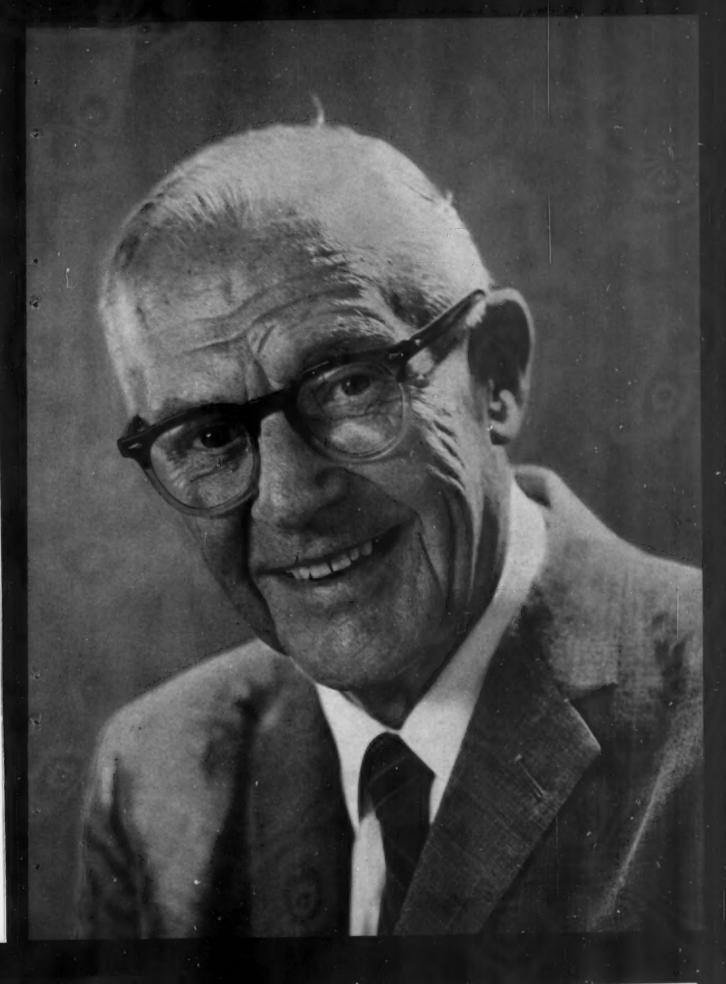
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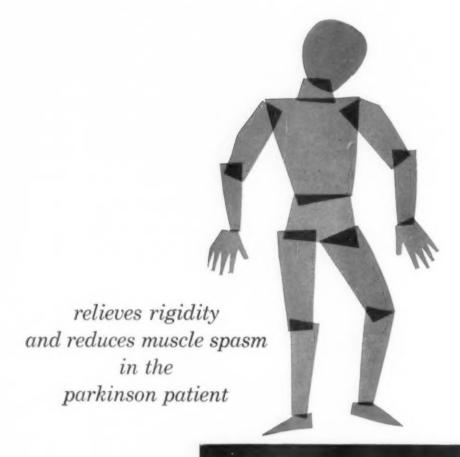
Supplied: Otrivin Nasal Solution, 0.1%; dropper bottles of 1 ounce. Otrivin Nasal Spray, 0.1%: plastic squeeze tubes of 15 ml. Otrivin Pediatric Nasal Spray, 0.05%; plastic squeeze tubes of 15 ml.

References: 1. Kolodny, A. L.: Antibiotic Med. 6:452 (Aug.) 1959, 2. Davis, M. R.: To be published. 3. Peluse, S.: In press.

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*Doshay, L. J., and Constable, K.: Treatment of Paralysis Agitans with Chlorphenoxamine Hydrochloride, J.A.M.A. 170:37 (May 2) 1959.

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Coroner's Corner

A beautiful imported German apothecary jar will be sent to each contributor of an unusual case report.

ne morning while driving from my home on one of Georgia's Golden Isles to my office where I was Deputy Coroner, I was stopped by the County Police and told to follow them. On arriving at police headquarters I found that the body of one of the wealthy shrimp boat captains, who had been missing for 2 months, had been recovered from the Atlantic ocean. This case was very puzzling since the man had disappeared with approximately \$5,000 on his person and no clues to his whereabouts had been discovered. There were stories as to what had happened to him. He was said to have been gambling heavily the Saturday night he disappeared, and to have lost his money in the card games; others said that he was seen walking toward the beach and had committed suicide by jumping into the rough waters of the Atlantic. Some said he had left town on business after his gambling losses. During the 2 months he was missing the police were busy checking all the foregoing leads, but all news of the case was kept strictly confident until the day the body was found.

The corpse was discovered by an old woman fishing for crabs. The County Police removed the remains to a local funeral home. I was called on to perform the postmortem which was a very unpleasant job. Clad in an oxygen mask, fireman's boots and heavy gloves, I performed the autopsy on the crab-eaten, waterlogged, macerated and maggot-eaten corpse. A very careful search was done first, for the missing money and secondly for evidence of

foul play. One \$20 bill was found on the body, and after careful examination a purplish discoloration was found on the posterior aspect of the neck at the line of demarcation between the hair and the skin. This was suspicious of trauma. The head was opened but there were were no fractures or hemorrhages. The brain was soft and mushy; this could not rule out the possibility of injury and subsequent cause of death.

Since this matter involved many people in the vicinity, the case never came to trial and all our efforts were in vain. The victim's family did not press the case and settled it with the victim's insurance. Thus a puzzling case was closed and it was never known whether the money was lost at sea or at a gambling table, or whether the captain was murdered for his money, or committed suicide.

J.M.M., M.D. Alexandria, Louisiana



New Enzyme-controlled antifungal therapy to meet the growing challenge of

Monilial Vaginitis

IN PREGNANCY / IN DIABETES / AFTER ANTIBIOTIC THERAPY—Today, monilial vaginitis is estimated to be a problem in at least 33 per cent of pregnant women and about 10 per cent of nonpregnant females!—a rapidly increasing incidence attributed partly to the widespread use of antibiotics.

"Vanay" Vaginal Cream broadens the scope of specific therapy: (1) "Vanay" insures a continuous therapeutic fungistatic effect without danger of local reaction; (2) in addition, "Vanay" restores and maintains a physiologic pH and normal vaginal flora—reducing risk of reinfection.

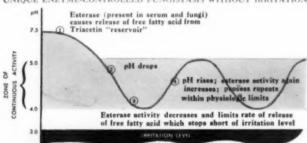
Effective response: Treatment was notably effective in moniliasis, as confirmed by symptomatic relief and post-treatment smears, Assali reports.² Marked clinical improvement was also noted in 154 of 206 patients, and in some cases symptoms subsided within a week of therapy.³

Other advantages: No monilial resistance demonstrated⁴ / prolonged duration of activity⁴ / nonsensitizing / nonirritating / nonstaining / odorless.

"VANAY" Vaginal Cream

UNIQUE ENZYME-CONTROLLED FUNGISTASIS WITHOUT IRRITATIONS

BRAND OF TRIACETIN IN NONLIQUEFYING BASE



(ayout)

AYERST LABORATORIES
New York 16, N.Y. · Montreal, Canada
5947



Indications: specific in monilial vaginitis...adjunctive in trichomoniasis... also valuable in non-specific vaginitis where an acid pH must be restored and maintained.

Usual Dosage: 2 to 4 grams daily, Supplied: No. 204-250 mg. Glyceryl triacetate per gram in a nonliquefying base. Combination package: 1½ oz. tube with 15 disposable applicators.

References: 1. Idson, B.: Drug & Cosmetic Industry 84:30 (Jan.) 1959.

2. Assali, N. S.: Personal communication.

3. Combined results of 18 clinical investigators, Medical Records, Ayerst Laboratories.

4. Kubista, R. A., and Derse, P. H.: Antibiotics & Chemotherapy, to be published.

5. G.: J. Invest. Dermat. 28:363 (May) 1957.

6. Knight, S. G.: Antibiotics & Chemotherapy 7:172 (Apr.) 1957.

1

Now 2 ways to specify Carnation Evaporated Milk infant formula

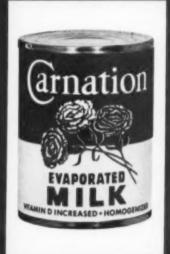
NEW! CARNALAC

... when maximum convenience is desired. New Carnalac is Carnation Evaporated Milk with carbohydrate and Vitamin D added. Diluted 1:1, it provides the typical Carnation Evaporated Milk formula as usually prepared at home.

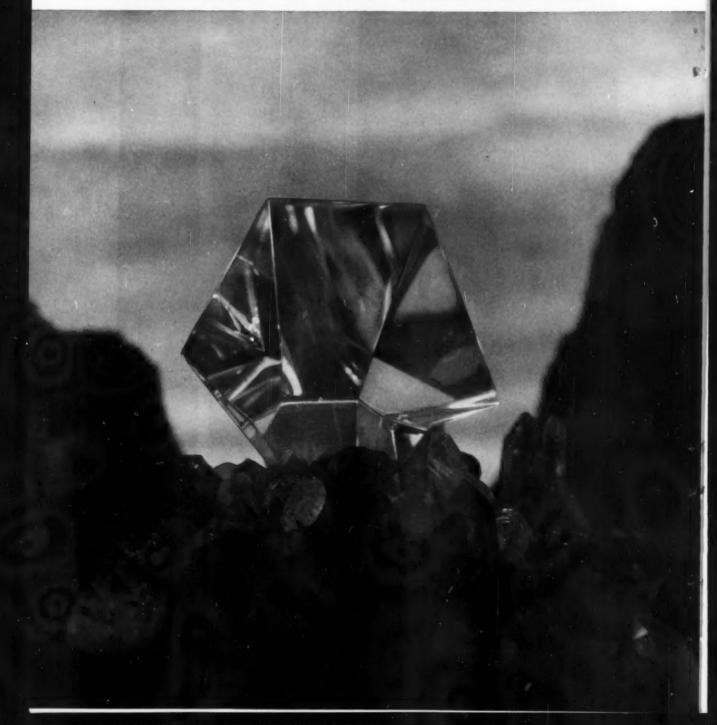


2 CARNATION EVAPORATED MILK

...when maximum formula flexibility is desirable for the baby...or when maximum economy is necessary for young parents.



PURE ANTIHISTAMINE ACTION NOW A PHARMACOLOGIC FACT BECAUSE DISOMER SHEDS THE MOLECULAR DROSS



NEW...IN THE TREATMENT OF ALLERGIC DISORDERS



- ·"...high therapeutic index"
- · unsurpassed clinical efficacy
- · highly effective in exceptionally small doses
- · side effects reduced to placebo level

Disomer....a major scientific advance in the pharmacology of antihistamines!

DISOMER was described as being "... as close to a pharmacologically pure form of histamine antagonist as the chemist can produce." Incorporating the newest knowledge of structure-function relationships, DISOMER comes closest thus far to the therapeutic ideal of pure antihistamine activity. DISOMER represents the d-isomer of racemic brompheniramine maleate. In shedding the l-isomer a high point in clinical effectiveness is achieved while side effects are reduced to the placebo level.

Therapeutic results have been noteworthy with 94.7% effectiveness reported.² Equally noteworthy is the virtual absence of clinically significant adverse reactions. Indeed, the sole side effect reported was occasional, mild drowsiness in only 4.7% of patients.

With DISOMER your allergic patient remains your alert patient while enjoying unsurpassed freedom

from allergic symptoms. Ready now for your prescription—DISOMER is available in a variety of dosage forms to fit your patients' individual requirements.

Availability:

DISOMER	CHRONOTAB*						0	0	0	0	0	0	0		6	mg.
DISOMER	CHRONOTAB*					 0				0	0		٠	0	4	mg.
DISOMER	Tablets	 	0	0.	0 0	 0	0		0			0	0		2	mg.
DISOMER	Syrup							2	1	m	192		r	iei	r 5	cc.

Usual dosage

	 					. 53	20.	•												
6 mg. CHRONOTAB		0		0			0	0		 0			0	0	0	a		0		b.i.d.
4 mg. CHRONOTAB		0	0		0	0	0			 0				D	0		0	0	0	t.i.d.
2 mg. Tablet	0	6	0	0	0	0	0	0	0 0		0	0	0		•		0	0	٠	q.i.d.
Syrup 1 teaspoonful																				a.i.d.





is White's repeat-action tablet.

References: (1) Gould, A. H. and Long, D. L.: Clinical Pharmacology and Therapeutic Use of Dexbrompheniramine Maleate (Disomer), a new Histamine Antagonist (submitted for publication). (2) Medical Department, White Laboratories, Inc.

WHITE LABORATORIES, INC.
Kenilworth, New Jersey

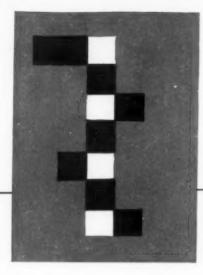


DISOMER Sheds the molecular dross If one . . . or all . . . needs nutritional support . . .



LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York





Medical Teasers

A challenging crossword puzzle for the physician (Solution on page 188a)

ACROSS

- 1. Gland with no known function
- 7. Target gland of FSH
- Lacking facilities for sirloin
- Occur in stomach mouth and vagina
- 14. ———planus
- 15. Eponym for parathyroids
- Heraldry depicted swallowing its prey whole
- 17. Crusted ringworm
- 18. Twenty in Greece
- 19. Frogs
- 20. Common in the ovary
- 21. Nickname for 23 down
- 22. An electrolyte in the blood stream
- 25. Weird
- 27. South American plant used in gout
- 29. Arsenic, symbol
- 31. No Appreciable Disease (Abbr.)
- 32. Illium, symbol
- 33. Yttrium, symbol
- 34. God
- 37. Pronoun
- 38. Short course
- 40. Intestinal Lymphatic
- 42. Prefix indicating
- moles
 43. Solutions used in separation by washing
- 44. Prelude to armistice
- 46. Tell
- 47. Petticoat
- 48. A sign of infection
- 49. Pruritus —

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DOWN

- Important exam in endocrine disease
- 2. Result of untreated cretanism
- 3. To die
- 4. Hurry
- 5. Solar disc
- 6. Stale urine
- 7. Even the skin is one
- 8. Area subject to minor endocrine influence

- 9. Absence of taste
- 10. Grentz ----
- 11. Antonym of no
- 17. This is rarely glandular
- 19. Cohort of Hashimoto's
- 21. "Tender mother"
- 23. Obstetrical pituitary hormone
- 24. Observe
- 26. Useful colleague

- 27. Result of excess Somatotrophin
- 28. Contraindication of Cortisone
- 29. Rival of Freud
- 30. Form of bidding
- 35. Pertaining to the eye
- 36. Take sans permission
- 39. "Little grape."
- 41. Prefix denoting within
- 45. Prefix denoting surface

treat the "common cold plus" new MADRICIDIN



prompt palliative effect <u>plus</u> defense against secondary invaders

each capsule provides:

MADRIBON

125 m

a low-dosage sulfonamide...to help prevent the secondary bacterial infections which may complicate the common cold

N-ACETYL-P-AMINOPHENOL

120 n

an analgesic-antipyretic—considered the active metabolite of acetophenetidin ... to reduce fever and to relieve headache, myalgia and other discomforts associated with acute respiratory disorders

 $\begin{array}{l} \textbf{Dosage:} \ \, \text{Adults} - \text{first day, 2 capsules q.i.d.; 1 capsule q.i.d. thereafter.} \\ \text{Continue therapy for 5 to 7 days or until patient is asymptomatic for at least 48 hours.} \end{array}$

Caution: The usual precautions in sulfonamide therapy should be observed, including maintenance of adequate fluid intake. If toxic reactions or blood dyscrasias occur, use of the drug should be discontinued.

THEPHORIN TARTRATE

10 mg

an antihistamine with low incidence of side effects . . . to relieve the alliergylike congestion as well as the sneezing and lacrimation which often accompany respiratory infections

CAFFEINE

30 mg

a direct-acting physiological stimulant \dots to allay drowsiness and fatigue and to help combat the "dragged out" feeling of the patient with a common cold



ROCHE' LABORATORIES

Division of Hoffmann-La Roche Inc. Nutley 10, N. J.

MADRIBON® - 2,4 dimethoxy-6 sulfanillamido-1,3 diszin

MADRICIDIN' ROCHE®



Atopic dermatitis before treatment

NOW... to relieve inflammation <u>fast</u>

- mg. for mg. the most active steroid topically—up to 40 times the potency of hydrocortisone
- optimal not minimal steroid concentration for peak effectiveness... maximal contact at the site of the lesion
- stops the itch-scratch cycle to aid inflammation relief and maintain patient comfort day and night
- quick-acting broad antimicrobial activity when infection threatens recovery
- no irritating steroid particles, no sting, stain, smell, stickiness



After treatment

ACTUAL CLINICAL PHOTOGRAPHS

TOPICAL CREAM

ecadron &



INDICATIONS: Allergic or inflammatory dermatoses, with or without pruritus; sunburn; insect bites; otitis externa (only if the drum is intact).

CAUTION: Steroids should not be used in the presence of tuberculosis of the skin.

DOSAGE: A small quantity of NeoDECADRON Topical Cream (0.1%) is applied to the affected area 2-3 times daily.

Additional information is available to physicians on request.

*NeoDECADRON and DECADRON are trademarks of Merck & Co., Inc.

ACTIVE INGREDIENTS

		MOTIVE ING	MEDICITIO	
Product	Steroid Concen- tration	Dexamethasone 21-Phosphate (as disodium salt)	Neomycin Sulfate	Supplied
HeeDECADRON Topical Cream	0.1%	1 mg./Gm.	5 mg./Gm. (equivalent to 3.5 mg. neomycin base)	5 Gm. (½ oz.) tube 15 Gm. (½ oz.) tube
DECADRON® Phosphate	0.1%	1 mg./Gm.	-	5 Gm. (½ oz.) tube 15 Gm. (½ oz.) tube



MERCK SHARP & DOHME Division of Merck & Co., Inc. . Philadelphia 1, Pa.

FOR NATURAL TRANQUILITY FEED BREMIL

Guaranteed physiologic Ca:P ratio of 1½:1 (not available in any other <u>liquid</u> infant formula product). Comparable to breast milk, more physiologic than cow's milk—minimizes restlessness, wakefulness, excessive crying.

POWDERED Easy for mothers - just add water

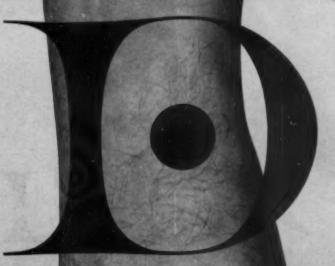
PHARMACEUTICAL DIVISION 350 Madison Avenue, New York 17
BREMIL - MULL-SOY - DRYCO - BETA LACTOSE - KLIM

AND FOR THOSE WHO CAN'T "TAKE" MILK ... MULL-SOY®

Bodens

extra active

Lederle introduces a masterpiece of antibiotic design



Strikingly enhances the traditional advantages of broad-spectrum antibiotics...

for greater patient-physician benefit

DECLOMYCIN is a unique fermentation product of a strain of Streptomyces aureofaciens—the parent organism of AUREOMYCIN® and ACHROMYCIN.®

DECLOMYCIN singularly achieves:

- · far greater antibiotic activity with far less drug
- · greater stability in body media
- unrelenting peak activity throughout therapy
- · "extra-day" protection through sustained activity

DECLOMYCIN retains:

- · unsurpassed broad-spectrum range of activity
- · rapid activity
- excellent toleration
- · effectiveness against infection in nearly all organs or systems-rapid diffusion in body tissues and fluids

*Chlortetracycline Lederle | †Tetracycline Lederle



Demethylchlortetracycline Lederle

Far greater antibiotic activity with far less antibiotic

Milligram for Milligram, DECLOMYCIN exhibits 2 to 4 times the clinical potency (inhibitory action) of tetracycline against susceptible organisms. Thus, DECLOMYCIN has the advantage of providing significantly higher serum activity levels with significantly reduced drug intake. • 1.8.8

Actually, DECLOMYCIN demonstrates the highest ratio of prolonged activity level to daily milligram intake of any known broad-spectrum antibiotic. Reduction of milligram intake of drug reduces hazards of related physical effect on intestinal mucosa or interaction with gastrointestinal contents.

Activity level is a far more meaningful basis of comparison than quantitative blood levels, as Hirsch and Finland note. Action upon pathogens is the ultimate value.¹

MYCIN



Unrelenting peak antimicrobial attack throughout therapy

The high level of DECLOMYCIN activity is uniquely sustained. It is not just an initial phenomenon but is constant—maintained on each day of treatment and between doses—without noticeable diminution of intensity. Peak-and-valley control is eliminated, favoring continuous suppression of pathogens and consequent improvement.

This DECLOMYCIN constant is achieved through remarkably greater stability in body fluids, ^{2,4,6} resistance to degradation and a low rate of renal clearance and supporting antibiotic activity for extended periods.



"Extra-day" activity for security against relapse

DECLOMYCIN maintains significant antibacterial activity for one to two days after discontinuance of dosage¹—a major distinction from other antibiotics. Previous drugs have declined abruptly in activity following withdrawal.

DECLOMYCIN thus gives the patient an unusual degree of protection against resurgence of the primary infection, and against secondary infection... sequelae not infrequently encountered and often resembling a "resistance problem." Consequently, reinstitution of therapy or a change in therapy should rarely be necessary.

MYCIN





greater antibiotic activity

with far less antibiotic intake

unrelenting peak attack

-enhancing the unsurpassed features of tetracycline...for greater physician-patient benefits

ECLO

Demethylchlortetracycline Lederle

antibiotic design



MYCIN

A major contribution of Lederle research



in the distinctive dry-filled duotone capsule

DECLOMYCIN **

available as:

DECLOMYCIN Capsules, 150 mg.

Adult dosage: 1 capsule four times daily.

Pediatric Drops, 60 mg. per cc.

Bottles of 10 cc. with dropper.

Oral Suspension, 75 mg. per 5 cc. tsp.

1. Hirsch, H. A., and Finland, M.: Antibacterial Activity Of Serum Of Normal Subjects After Oral Doses of Demethylchlortetracycline, Chlortetracycline and Oxytetracycline. New England J. Med. 260:1099 (May 28) 1959. 2. Hirsch, H. A., Kunin, C. M., and Finland, M.: Demethylchlortetracycline – A New And More Stable Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Activity. To be published. 3. Lichter, E. A., and Sobel, S.: The Distribution Of Oral Demethylchlortetracycline In Healthy Volunteers And In Patients Under Treatment For Various Infections. To be published. 4. Kunin, C. M., Dornbush, A. C. and Finland, M.: Distribution And Excretion Of Four Tetracycline Anaiogues In Normal Young Men. To be published. 5. Kunin, C. M., and Finland, M.: Demethylchlortetracycline: New Tetracycline Antibiotic That Yields Greater and More Sustained Antibacterial Capacity. New England J. Med. 259:999 (Nov. 28) 1958. 6. Sweeney, W. M.; Hardy, S. M.; Dornbush, A. C., and Ruegsegger, J. M.: Demethylchlortetracycline: A Clinical Comparison of A New Antibiotic with Chlortetracycline and Tetracycline. Antibiotics & Chemotherapy 9:13 (Jan.) 1959.

R Declomycin Caps 150 mg. Disp ** AVI Sig 1 cap q.i.d.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY Pearl River, New York



completes the picture in high starch diets

TAKA-COMBEX

to help digest carbohydrates • to forestall vitamin deficiencies

Each Kapseal contains:

TAKA-COMBEX elixir containing Taka-Diastase, Vitamins B₁, B₂, B₆, pantothenic acid, and nicotinamide is also available in 1-pint bottles.

Other dependable COMBEX products:

when requirements for B-complex are increased

COMBEX® KAPSEALS

bottles of 100, 500, and 1,000

for combined B-complex and C deficiencies

COMBEX WITH VITAMIN C KAPSEALS

bottles of 100, 500, and 1,000

for a rapid increase in B-complex reserves

COMBEX PARENTERAL

10-cc. Steri-Vials®

for correction of severe vitamin B-complex and C deficiencies

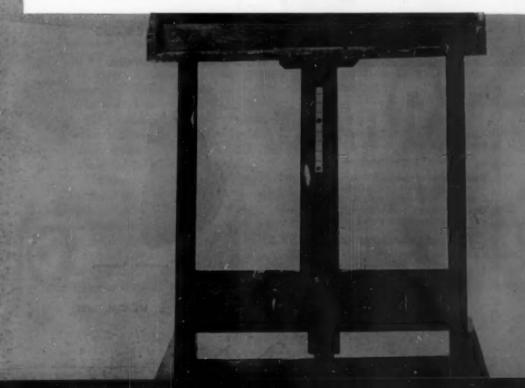
THERA-COMBEX° KAPSEALS

bottles of 100 and 1,000

PARKE, DAVIS & COMPANY

DETROIT 32, MICHIGAN





In Coronary Insufficiency...

Your high-strung angina patient often expends a "100-yd. dash" worth of cardiac reserve through needless excitement.





Curbs emotion as it boosts coronary blood supply

CONTROL OF EMOTIONAL EXERTION with Miltrate leaves him more freedom for physical activity.

IMPROVED CORONARY BLOOD SUPPLY with Miltrate increases his exercise tolerance.

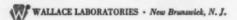
Miltrate

Miltown® (meprobamete) + PETN

Each tablet contains: 200 mg. Miltown and 10 mg. pentaerythritol tetranitrate.

Supplied: Bottles of 50 tablets.

Usual dosage: 1 or 2 tablets q.i.d. before meals and at bedtime. Dosage should be individualized.





CHI-9179-09 STRANG-MARK



What's Your Verdict?

Edited by Ann Ledakowich, Member of the Bar of New Jersey

A physician was engaged by an expectant mother for prenatal, delivery and post natal care. The physician lived about 250 yards from the pregnant woman's home and promised to give her reasonably necessary attention and treatment during her confinement. July 19th was estimated as the probable date of delivery.

On Monday, April 9th, the patient commenced to flow. On her doctor's advice she remained in bed for two days. The flow had practically stopped by Friday, and the patient felt well when she called at the doctor's office.

Early Sunday morning the patient awoke in pain. She was unaware that a miscarriage was imminent. Her husband called the physician and asked him to come over. He called again about an hour later to ask what he might do to alleviate his wife's pains which were growing worse. He again asked the physician to come to his home. A third call from the husband was still to no avail.

The physician did not arrive at the patient's home until after a call from a neighbor, a young woman who informed him that the patient had suffered a miscarriage.

The physician was subsequently served with summons and complaint in a malpractice case against him for negligence in failing to attend and treat his patient. No claim was made for the death of the child.

Counsel demands compensatory damages for his client for all the pains of childbirth and following physical condition which were not



eased or prevented due to the failure of the physician to attend his patient. Counsel concedes that the miscarriage would have occurred whether or not the physician had attended his patient at the time called.

Defense counsel urges contributory negligence of the patient as a defense barring the action. Counsel insists that the husband's failure to specify and inform the physician that the patient was in labor left the physician unaware of the urgency of the situation and thus excused his delay in responding to the calls.

The trial court dismissed the case. On an appeal taken by the patient, how would you decide?

(Answer on page 260a)

DYNAMIC IN BOTH BASIC

Acetazolamide Lederle

DRUG CONTROL OF SIMPLE

DIAMOX mobilizes excess tissue fluids through simple but dynamic bicarbonate-transport regulation. Inhibiting the enzymatic action of carbonic anhydrase, DIAMOX blocks renal reabsorption of bicarbonate, sodium and water and reroutes them into excretory channels.

In most simple edema, one DIAMOX daily produces ample diuresis...nontoxic and nonirritating to renal or gastric areas; no notable changes in blood pressure or electrolyte balance. Because DIAMOX is rapidly excreted, dosage is easily adjusted and does not interfere with sleep.

cardiac edema · premenstrual tension · edema of pregnancy · obesity



DIURETIC REGIMENS

DIAMON

the HCO3 regulating diuretic



DOUBLE DRUG CONTROL FOR INTENSIVE DIURESIS

Alternating DIAMOX with chloride-transport regulating diuretics achieves more dynamic diuresis than with either alone. By counterbalancing the tendency of these agents to produce systemic alkalosis, DIAMOX helps potentiate the diuretic effect, lessen risk of acquired tolerance and prolong intensive diuresis.

advanced congestive heart failure · refractory toxemia of pregnancy

ALSO EXCEPTIONALLY VALUABLE IN GLAUCOMA AND EPILEPSY

Although mode of action has not been exactly defined in either instance, clinical experience has repeatedly proved DIAMOX a well tolerated, efficient means of reducing intraocular pressure in glaucoma and controlling seizures in both young and adult epileptics.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

(VOL. 87, NO. 11) NOVEMBER 1959

55a

CHELATED IRON



■ outstandingly free from g.i. irritation ■ does not stain teeth [when given as a liquid] ■ can be taken any time - between meals without irritation, or at mealtime without impaired utilization compatible with ulcer medication, and does not cause added irritation safest iron to have in the home because of chelate-controlled absorption ■ and - clinically confirmed as an effective hematinic (Franklin et al.: J.A.M.A. 166:1685, 1958]

Brand of Iron Choline Citrates

Trademark

CHELATED the new way to give oral iron

Tablets - 1 tablet t.i.d. furnishes 120 mg. iron Pediatric Drops - 1 cc. furnishes 25 mg. iron Liquid - 1 tsp. (5 cc.) furnishes 50 mg. iron also: CHĒL-IRON PLUS Tablets — chelated iron plus B₁₂, folic acid, other B vitamins, and C.



Kinney & COMPANY, INC. . COLUMBUS, INDIANA



"Chelate" describes a chemical structure in which metallic ions are "encircled" and their physicochemical properties thereby altered, Chelated Iren (as iron choline citrate*) is unusually soluble; nonionizable; not precipitated by variations in g.i. tract pH, protein, phosphate, or alkali; yet is readily available for hemopoiesis on physiologic demand.

*u. s. PAT. 2,575,611

Does more than curb appetite... also relieves the tensions of dieting



Appetro

Helps you keep your patient on your diet

AN EXTENSIVE SURVEY shows that in 68% of overweight persons there is an emotional basis for failure to limit food intake.1 Appetrol has been formulated to help you overcome this problem and to keep your overweight patient on your diet.

THIS NEW ANORECTIC does more than give you dextro-amphetamine to curb your patient's appetite. It also gives you Miltown to relieve the tensions of dieting which undermine her will power. IN PRESCRIBING APPETROL, you will find that your patient is relaxed and more easily managed so that she will stay on the diet you prescribe.

Usual dosage: 1 or 2 tablets one-half to 1 hour before meals.

Each tablet contains: 5 mg. dextro-amphetamine sulfate and 400 mg. Miltown (meprobamate, Wallace).

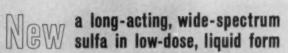
Available: Bottles of 50 pink, uncoated tablets.

1. Kotkov, B.: Group psychotherapy with the obese, Paper read before The Academy of Psychosomatic Medicine, October 1958,



WALLACE LABORATORIES, New Brunswick, N. J.





Midicel Acetyl Suspension (N'acetylsulfamethoxypyridazine, Parke-Davis)

JUST RIGHT FOR CHILDREN...DELICIOUS BUTTERSCOTCH FLAVORED

Provides these distinct therapeutic advantages: convenient and economical single daily dose • rapid, therapeutically effective concentrations in plasma and tissues maintained for 24 hours • wide antibacterial effectiveness of sulfonamides • high solubility and low dosage, minimizing possibility of crystalluria.

Recommended desage: First day -1 teaspoonful (5 cc.) for each 18 lbs. body weight. Daily maintenance -1/2 teaspoonful for each 18 lbs. body weight. Pediatric desage should not exceed adult desage. Supplied: 250 mg. per 5 cc., in 4-oz. bottles. Also available: MIDICEL® (sulfamethoxypyridazine, Parke-Davis), as quarter-scored tablets of 0.5 Gm., bottles of 24, 100, and 1,000. Adult desage: Initial (first day) -2 tablets (1 Gm.) for mild or moderate infections, or 4 tablets (2 Gm.) for severe infections. Maintenance -1 tablet (0.5 Gm.) daily for mild or moderate infections, or 1 tablet (0.5 Gm.) to 3 tablets (1.5 Gm.) daily for severe infections, depending on severity of the infection and weight of the patient. Children's desage: According to weight. See literature for details of desage and administration.



PARKE, DAVIS & COMPANY

HIGAI



you share this care by specifying

Vi-Sol drops



An important step in assuring the vitamin potency of Vi-Sol drops is this aquameter check for excessive moisture. This precision instrument makes it possible to determine moisture content to an exact degree, an extra measure of care that is routine with each lot of Vi-Sol drops.

to safeguard potency...

one of 143 product quality controls* assuring superiority

This test for moisture level is just one of the many conducted, using the most advanced equipment, that make certain of stated *potency* at the time of manufacture. Other tests are designed to assure vitamin *stability* throughout shelf-life and use.

This meticulous care at every step makes the big difference in Vi-Sol drops. The mother knows that the product is pure and safe...the formulation sound and the potency stable when she sees the Mead Johnson name on the label.

*plus 231 additional quality checks that guard Vi-Sol drops from raw material to package,

Deca-Vi-Sol drops

10 significant vitamins, Mead Johnson

Poly-Vi-Sol drops

6 essential vitamins, Mead Johnson

Tri-Vi-Sol drops

3 basic vitamins, Mead Johnson



In the Treatment of Rheumatic Disorders Greater stability of maintenance dosage minimizes risks of hormonal imbalance

In Sterazolidin, the anti-inflammatory actions of prednisone and Butazolidin* are combined to permit lower effective dosage of each. Clinical experience has indicated that patients can be well maintained on this combination over prolonged periods with relatively low, stable dosage levels of each component, thus minimizing the problems arising from excessively high doses of corticosteroids. Other side effects have also been gratifyingly few. Antacid and spasmolytic components are contained in Sterazolidin capsules for the benefit of patients with gastric sensitivity.

Sterazolidin*: Each capsule contains prednisone 1.25 mg.; phenylbutazone 50 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.

Detailed information available on request. *Geigy's trademark for phenylbutazone-Reg. U. S. Pat. Off.



COMPREHENSIVE, THREE-LEVEL TREATMENT OF DEPRESSION

AND ASSOCIATED ANXIETY AND PHYSICAL TENSION

RELIEVES DEPRESSION including symptoms such as crying, lethargy, loss of appetite, insomnia

RELIEVES ASSOCIATED ANXIETY with no risk of drug-induced depression

RELIEVES ASSOCIATED PHYSICAL TENSION by relaxing skeletal muscle

> l hypothalamus

thalamus and limbic system

3 spinal cord

'Deprol'

benactyzine + meprobamate

- m confirmed efficacy
- documented safety

SUPPLIED: Bottles of 50 light-pink, scored tablets COMPOSITION: Each tablet contains 1 mg. benactyzine HCl and 400 mg. meprobamate

*WALLACE LABORATORIES • New Brunswick, N. J.



AFTER HOURS

Photographs with brief description of your hobby will be welcomed. A conversation-piece desk ornament . . . an imported, wooden [handcarved] physician figurine . . . will be sent for each accepted contribution.

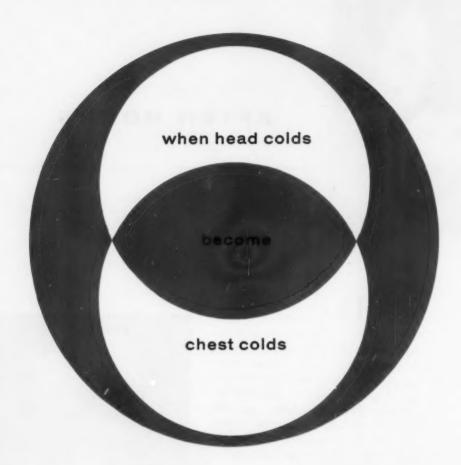
Dr. Raymond A. Toepfer of West Allis, Wisconsin, is in no immediate danger of running out of hobbies. A current inventory would include hunting, fishing, camping, travel, photography (stereo, polaroid, movies), dog training, gardening (with an emphasis on rose culture). He also manages to "attend about 50 Braves" games a year and all of the home games of the University of Wisconsin football team."

Hunting has to be classified as one of the doctor's major hobbies. He hunts "big horn sheep, elk, mule, and whitetail deer, antelope, mountain lion, bear, pheasants, grouse, rabbits, squirrels and gophers."

In the fall of 1958 Dr. Toepfer and four companions went on a memorable hunt in the mountain country of northwestern Wyoming. The party had 29 horses, an outfitter, three guides, a cook and a horse wrangler. Trophies included two big horn sheep, three elk, two mule deer and an antelope. The very successful hunt later was recounted in a feature story in the Milwaukee *Journal*.



Snapshot of Dr. Toepfer was taken after 15 days away from civilization, near the Continental Divide in Wyoming.



Novahistine-DH*

LIQUID

controls cough spasm and decongests air passages. Novahistine combined with dihydrocodeinone relieves respiratory congestion and controls useless, exhausting cough. And the delicious grape flavor of Novahistine-DH makes it appealing to both adults and children. Each 5 cc. teaspoonful contains: phenylephrine HCl, 10 mg.; prophenpyridamine maleate 12.5 mg.; dihydrocodeinone bitartrate, 1.66 mg.; chloroform, approx. 13.5 mg., and I-menthol, 1 mg. Exempt narcotic.

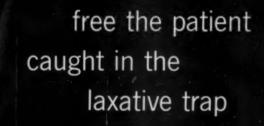
And for all-day or all-night relief—two long-acting Novahistine-DH Cough Tablets will quiet cough and relieve bronchial congestion for 8 to 12 hours.

PITMAN-MOORE COMPANY . DIVISION OF ALLIED LABORATORIES, INC. . INDIANAPOLIS 6, INDIANA

*TRADEMARK







KONDREMUL

a move in the right direction

... re-establishes predictable regularity of action after prolonged use of habit-forming laxatives. Pharmacologic, physiologic and clinical investigations over a 25-year period have shown that KONDREMUL restores normal bowel function through micromulsive action on the atonic colon.

KONDREMUL—the delicious, easy-to-take bowel regulator, a micromulsive mineral oil encapsulated in Irish Moss—mixes readily with warm or cold water, milk or cocoa.

Available in 3 forms
KONDREMUL Plain
KONDREMUL with Cascara
KONDREMUL with Phenolphthalein

Write today for your supply of "A Guide to Normal Bowel Function." The pamphlet offers suggestions to patients to help them cooperate with therapy and thus help themselves maintain normal bowel function.





in acute superficial thrombophlebitis

"A one-week course of therapy is generally sufficient to produce satisfactory resolution of the inflammatory process without recurrence."

Orbach, E. J.: J. Internat. Coll. Surgeons 31:165, 1959.

in arthritis and allied disorders

"Patients who experienced major improvement had prompt and almost complete relief of pain and stiffness, which could be maintained on a small maintenance dose." Graham, W.: Canad. M.A.J. 79:634, (Oct. 15) 1958.

Butazolidin

(brand of phenylbutazone)

tablets · alka capsules

BUTAZOLIDIN® (brand of phenylbutazone): Red-coated tablets of 100 mg.

BUTAZOLIDIN® Alka: Orange and white capsules containing BUTAZOLIDIN 100 mg.; dried aluminum hydroxide gel 100 mg.; magnesium trisilicate 150 mg.; homatropine methylbromide 1.25 mg.



ARDSLEY, NEW YORK

geigy

"In all things, success depends upon previous preparation..." -CONFUCIUS



mineral-hormone supplement KAPSEALS°

help prepare your middle-aged patients for healthy retirement years

vitamins 1,667 Units (0.5 mg.) 0.67 mg. 33.3 mg. 16.7 mg. Vitamin A Vitamin B₁ mononitrate Vitamin B₁ mononitrate
Ascorbic acid
Nicotinamide
Vitamin B₂
Vitamin B₃
Vitamin B₁₂ with intrinsie 0.67 mg. 0.5 mg. factor concentrate
Folic acid
Choline bitartrate
Pantothenic acid
(as the sodium salt) 0.033 USP Unit (oral) 0.1 mg. 6.67 mg.

minerals

each KAPSEAL contains:

Ferrous sulfate (exsiccated)
Iodine (as potassium iodide)
Calcium carbonate 16.7 mg. 0.05 mg. 66.7 mg. digestive enzymes

Taka-Diastase® (aspergillus oryzae enzymes) Pancreatin 20 mg. 133.3 mg.

protein improvement factors 1-Lysine monohydrochloride dl-Methionine 66.7 mg. 16.7 mg. gonadal hormones

Methyl testosterone Theelin

dosage: One Kapseal three times daily before meals. Female patients should follow each 21-day course with a 7-day rest interval.

packaging: ELDEC KAPSEALS are available



PARKE. DAVIS & COMPANY, DETROIT 32, MICHIGAN



Who Is This Doctor?

Identify the famous physician from clues in this brief biography

He attended Columbia University, was graduated from Princeton and studied medicine in London. He would have been killed in the Doctors' Mob riot of 1788 in New York City, an uprising of the mob against doctors for the dissection of corpses, if he had not been dragged to safety by a fellow doctor.

He successfully used the injection method of treating hydrocele by injecting irritating substances, probably iodine or carbolic acid, promoting scarring and adhesion of the tunica vaginalis. His most celebrated surgical feat was ligation of the femoral artery for aneurysm.

When typhus struck the ship Mohawk, in 1794, he was a passenger and the only doctor on board. He did not lose a patient. A grateful survivor introduced him to Alexander Hamilton and Aaron Burr, and he became physician to both.

He strongly supported vaccination and was among the first to insist upon isolation in certain diseases. He helped establish a strict system of quarantine at seaports. In the typhus epidemic of 1819 in New York, he led the fight for public sewerage and water systems.

After the death of his first wife, he remarried and nine children were born of the second union, one of them becoming a leading doctor.

His home was a mecca for distinguished visitors. Washington Irving called him one of New York's three leading citizens.

He was one of the founders of the American Academy of Art and the New York Historical Society. He encouraged and gave financial support to inventors Samuel Morse and Robert Fulton.

He attended Hamilton and Burr at their duel, accompanied the dying Hamilton to his home and lent Burr the money to flee the country. He denounced both as "violent men."

A skilled botantist, he built the Elgin Botanical Gardens in New York, planted 2,000 plants gathered from various countries and, when maintenance became a financial drain, sold the Gardens to the state. A portion of this land is the site of Rockefeller Center and is valued at more than \$100 million.

He died in 1835. Can you name this Doctor? Answer on page 260a.

now! liquid tetracycline in premeasured doses hold

a Squibb first in pediatrics

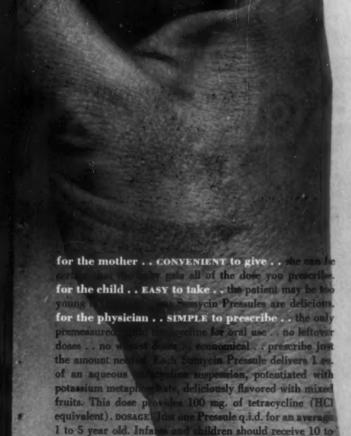
Sumycine Potentiated Tetracycline Aqueous Drops

Phosphate Potentiated Tetracycline Aqueous Drops

Dressules

Dressules





20 mg. of tetracycline/lb. of body weight. Thus for a child weighing from 20 to 40 pounds, one Pressule q.i.d. will be sufficient for the vast majority of infections. For children weighing more than 40 pounds, give 2 or more Sumycin Pressules q.i.d., according to body weight, or Sumycin Syrup. For infants under 20 pounds, administer Sumycin Aqueous Drops. SUPPLIED: Sumycin Syrup, a fruit flavored aqueous suspension, buffered with potassium metaphosphate, containing tetracycline equivalent to 125 mg. tetracycline HCl per 5 cc., and Sumycin Aqueous Drops, a fruit flavored aqueous suspension, buffered with potassium metaphosphate, containing tetracycline equivalent to 100 mg. tetracycline HCl per cc. SQUIBB Squibb Quality—the

Priceless Ingredient

your patients
nutritionally

in pregnancy
lactation
convalescence
deliciency states
dietary restrictions
digestive dysfunction

with

Saturation Dosage

of water-soluble vitamins B and C

ALLBEE with C



delivers inflammation

Only NE

HYDELTRASOL provides its steroid component in true solution—a definite therapeutic benefit, use solution more of the steroid is immediately available to inflamed nasal mucosa, nilemmatory action of the prednisolone 21 phosphate is reinforced by two valuable deconfortest and prolonged action—and neomycin to compare intranasal infection.

plastic spray bottles Supplied in NEO-HYDELTRA



MERCK SHARP & DOHME Division of Merck & Co., Inc., Philadelphia 1, Ps.

first in preference for relief from cough

quiets the cough and calms the patient

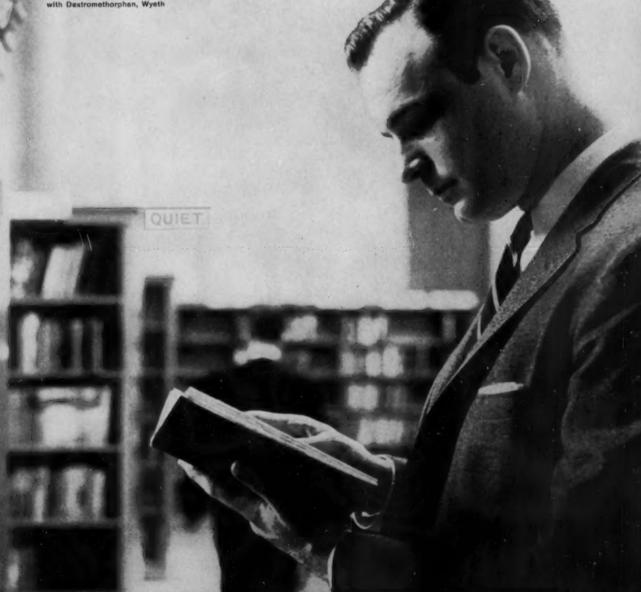
Expectorant

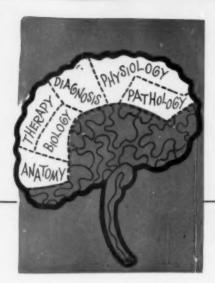
Sedative Topical anesthetic

Promethazine Expectorant, Wyeth with Codeine Plain (without Codeine)

NEW NON-NARCOTIC FORMULA Pediatric PHENERGAN EXPECTORANT

with Dextromethorphan, Wyeth





Mediquiz

These questions were prepared by the Professional Examination Service, a division of the American Public Health Association. Answers will be found on page 260a.

- 1. The incubation period for relapsing fever is best given as:
 - A) 2-15 days.
 - B) 8 12 days.
 - C) 10 30 days.
 - D) 1 6 weeks.
 - E) 3 5 weeks.
- 2. The clinical pathology of pernicious anemia is characterized by the frequent finding of all of the following except:
 - A) Elevated stool urobilinogen.
 - B) Elevated urinary urobilinogen.
 - C) Poikilocytosis.
 - D) A positive Coomb's test.
 - E) Elevated serum bilirubin.
- 3. In the insulin tolerance test, the intravenous injection of insulin, 0.1 unit per kilogram of body weight, is usually sufficient to lower the blood sugar:
 - A) 1-10 percent.
 - B) 10-25 percent.
 - C) 25-40 percent.
 - D) 50-60 percent.
 - E) 70-85 percent.
- 4. The oral administration of 1 mgm. of histamine usually produces in the average human adult:
 - A) Intense headache.

- B) Marked gastric secretion.
- C) Precipitous fall in blood pressure.
- D) No symptoms.
- E) Diarrhea.
- 5. Among the following statements regarding diagnosis of venereal diseases, the only correct one is that:
- A) A reactive serologic test for syphilis on cord blood at the time of delivery is diagnostic of congenital syphilis, and calls for immediate treatment.
- B) A diagnosis of latent syphilis is indicated in a patient who has a history of syphilis and/or a persistent reactive serologic test for syphilis, in the absence of clinical signs or symptoms, even without a spinal fluid examination.
- C) Gram-negative intracellular diplococct should be demonstrated in smears to confirm the diagnosis of gonorrhea in every case.
- D) A diagnosis of secondary syphilis is indicated in a patient who has skin eruption and a reactive blood serologic test for syphilis.
- E) A negative urethral or cervical smear is of little significance in the elimination of a diagnosis of chronic gonorrhea.
- 6. Which one of the following may prevent seizures in a known epileptic?
 - A) Avoidance of milk.

Continued on page 80a

Classic Treatment in Hypertension*



*Because

RAUWILOID provides effective Rauwolfia action virtually free from serious side effects ... the smooth therapeutic efficacy of Rauwiloid is associated with a lower incidence of certain unwanted side effects than is reserpine...and with a lower incidence of depression. Tolerance does not develop.

RAUWILOID can be initial therapy for most hypertensive patients...Dosage adjustment is rarely a problem.

When more potent drugs are needed, prescribe one of the convenient single-tablet combinations

Rauwiloid® + Veriloid®

alseroxylon 1 mg. and alkavervir 3 mg.

Rauwiloid® + Hexamethonium

alseroxylon 1 mg. and hexamethonium chloride dihydrate 250 mg.

Many patients with severe hypertension can be maintained on Rauwiloid alone after desired blood pressure levels are reached with combination medication.



New reinforced therapy from Schering for seasonal asthma and allergic dermatoses

What's its name

Polanil

What's its rationals

POLANTL a taxonizad or inhibita meny of the characteristic effects of historine and duporosons the inflammatory reagence and therefore, is exceptively recommended in these effects are information where effective are fully effective or full observed thems.

What's is dosage

ROUNTIL — and on the shallest street ments and at the street street to the street street to the street street at the street stre

POLARAMINE: the closest to a perfect antihistamine
DERONIL: today's lowest dosage corticosteroid

POLANIL

SCHERING CORPORATION . BLOOMFIELD, NEW JERSEY

....

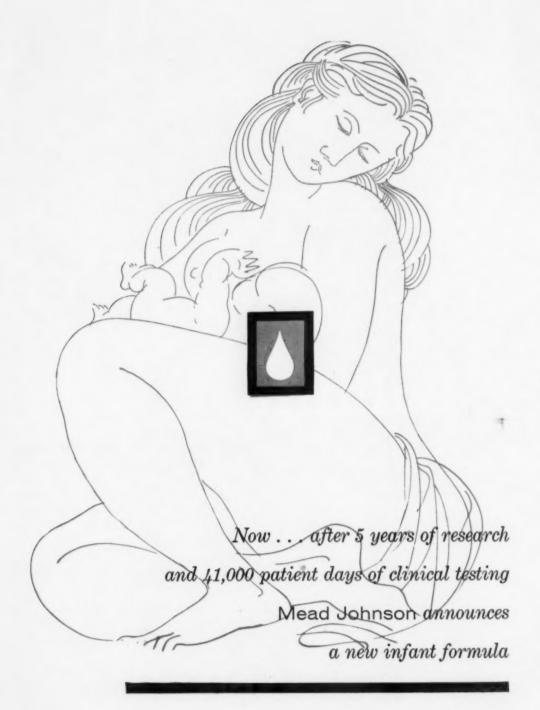
What is it.

POLANIL is dextro-chlorpheniramine maleate (Polaramine Maleate) — the closest to a perfect antihistamine and dexamethasone (Deronil®) — today's lowest dosage corticosteroid.

What are its advantages

FOLANTE zentrines the imercelled ret elstemide, affect uppest and soloti el Posta in NE with DERONE.

Schering



nearest to mother's milk' in nutritional breadth and balance

Enfamil

Infant formula

nearest to mother's milk'
in nutritional breadth and balance

In a well controlled institutional study², using the Latin Square technic[†] for the first time in infant nutritional research, Enfamil was compared with three widely used infant formula products.

This formula produced:

weight gains greater than average stool firmness between firm and soft...and lower stool frequency.

NEAREST... to mother's milk in its pattern of protein, fat and carbohydrate by caloric distribution

NEAREST... to mother's milk in its pattern of vitamins and minerals (more vitamin D in accordance with NRC recommendations)

NEAREST... to mother's milk in its fat composition (no butterfat; no sour regurgitation)

NEAREST... to mother's milk in its ratio of saturated to unsaturated fatty acids

NEAREST... to mother's milk in its low renal solute load

ENFAMIL LIQUID - cans of 13 fluid ounces. 1 part Enfamil Liquid to 1 part water for 20 cal. per fl. oz.

ENFAMIL POWDER—cans of 1 lb., with measure. 1 packed level measure of Enfamil Powder to 2 ounces of water for 20 cal. per fl. oz.

The Latin Square technic, used for the first time in infant nutritional research to evaluate Enfamil, is a change-over method for intensive, controlled clinical testing which was applied to infants during their critical first 8 weeks of life. It is an efficient way of neutralizing the multiple variables in nutritional research.

1. Macy, I. G.; Kelly, H. J., and Sloan, R. E., with the Consultation of the Committee on Maternal and Child Feeding of the Food and Nutrition Board, National Research Council: The Composition of Milks. National Academy of Sciences, National Research Council, Publication 254, Revised 1968. 2. Research Laboratories, Mead Johnson & Company.

MEAD JOHNSON & COMPANY, EVANSVILLE 21, INDIANA

*Trade Mark



- B) Starvation.
- C) An alkaline diet.
- D) Forcing fluids.
- E) Hyperpnea.
- 7. Eventration of the diaphragm is a term applied to:
 - A) Para-esophageal diaphragmatic hernia.
 - B) Traumatic laceration of the diaphragm.
- C) Relaxation and elevation of a diaphragmatic vault.
- D) Congenital absence of a diaphragmatic vault.
- E) Inflammatory destruction of a part of the diaphragm.

- **8.** The eosinopenic response occurs most strikingly following administration of:
 - A) Adrenosterone.
 - B) Corticosterone.
 - C) Cortisone.
 - D) Dehydrocorticosterone.
 - E) 11-Desoxycorticosterone.
- Most children with coarctation of the aorta:
 - A) Die before reaching age 21.
 - B) Die before puberty.
 - C) Are cyanotic.
 - D) Are also mentally deficient.
 - E) Do not have symptoms.

aqueous
natural high potency
vitamin A
in ACNE
chronic eczemas
dry, itchy, scaly skin

- 10. A patient with breast cancer is considsidered to have failed to respond to testosterone therapy if no significant changes are seen after it has been administered for:
 - A) 3 days.
 - B) 1 week.
 - C) 4 weeks.
 - D) 8 weeks.
 - E) 4 months
- 11. All of the following statements concerning the omentum are correct except that:
- A) Injuries to the omentum bleed profusely and may exsanguinate the patient.
- B) The omentum is covered with peri-
- C) The omentum may become inflamed or contain tumors.
- D) The omentum is a barrier against general peritonitis.
- E) Complete removal of the omentum is poorly tolerated by patients.

- 12. The peak excretion of fixed base by a patient receiving 10-15 grams of ammonium chloride daily occurs on the:
 - A) First day.
 - B) Third day.
 - C) Fifth day.
 - D) Eighth day.
 - E) Fourteenth day.

(Answers on page 260a)

MEDIQUIZ REPRINTS AVAILABLE

Through the cooperation of the Professional Examination Service, Division of the American Public Health Association, special reprints of 150 Mediquiz questions and answers are now available in booklet form for \$1 per copy. To stimulate further study, the source of each answer is listed in the booklet. The supply of booklets is limited. To be certain you'll have a copy, send your dollar now to the Professional Examination Service, Department MT-11, American Public Health Association, 1790 Broadway, New York City 19, New York.

aquasol A capsules

more readily, rapidly, completely reaches the affected tissues because there is greater diffusibility of vitamin A from aqueous dispersion into the tissues."1

aquasol A capsules - the most widely used of all oral vitamin A

aqueous vitamin A is more promptly, more fully, more dependably absorbed and utilized.

natural vitamin A is more effective because it is directly utilized physiologically.

well tolerated - fish taste, odor and allergens are removed by special processing.

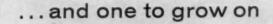
economical — less dosage is needed and treatment time is sharply

u. s. vitamin a pharmaceutical corporation

250 East 43rd Street, New York 17, N. Y.

three separate high potencies (water-solubilized

25,000 U.S.P. units 50,000 U.S.P. units 100,000 U.S.P. units



A tiny tablet of REDISOL to stimulate the appetite—to help in the intake of food for growth.

REDISOL is crystalline vitamin B_{12} , an essential vitamin for growth and the fundamental metabolic processes.

Ideal for the growing child, the REDISOL tablet dissolves instantly on contact in the mouth, on food or in liquids.

Packaged in bottles hermetically sealed to keep the moisture out and to retain vitamin potency in 25 and 50 mcg. strengths, bottles of 36 and 100 — in 100 mcg. strength, bottles of 36, and in 250 mcg. strength, vials of 12.

Also available as a pleasant-tasting cherry-flavored elixir (5 mcg. per 5-cc. teaspoonful) and as REDISOL injectable, cyanocobalamin injection USP (30 and 100 mcg. per cc., 10-cc. vials and 1000 mcg. per cc. in 1, 5 and 10-cc. vials).

REDISOL

cyanocobalamin, Crystalline Vitamin B12



MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

THE BUFFERED
ACID VAGINAL DOUCHE
BUFFERED
TO MAINTAIN
AN ACID pH*



Mildly astringent southing inflamed tissue

Low surface tension effectively penetrating vaginal folds

"Clean" refreshing odor assuring patient acceptance

Valuable adjunct in management of monilia, trichomonas, staphylococcus and streptococcus vaginal infections.

COMP

See reverse side for detail.

MASSENGILL POWDER

THE SEE MASSENGILL

ristol Termasses New York Kar as City

NEUTRAL 10 11 12 ACID ALKALINE 13

massengill° powder

The **BUFFERED** acid vaginal douche

What is a BUFFER?

Medical dictionaries define it as a substance which, added to a solution, causes resistance to any change of hydrogen-ion concentration (pH) when either acid or alkali is added.

Significance of buffers in Massengill Powder

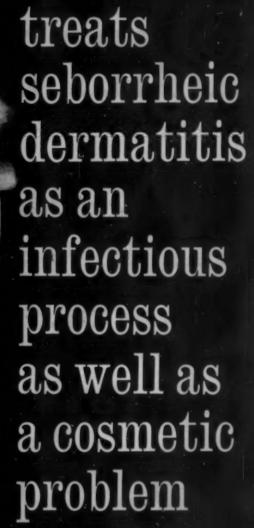
The normal vagina has a pH of 3 to 4.5. This low pH inhibits growth of most pathogenic invaders. Usually, an infection will cause the pH to rise to the neutral or alkaline range which favors the multiplication of pathogens.

The alkaline mucosa neutralizes a simple, unbuffered acid douche, like vinegar, within 30 minutes.

In contrast, the buffered acid douche solution of Massengill Powder (pH 3.5-4.5) resists neutralizing. The normal, low pH is maintained for 4 to 6 hours and as long as 24 hours in recumbent patients. This low pH inhibits the propagation of monilia, trichomonas vaginalis and pathogenic bacteria. However, the beneficial Döderlein bacillus thrives in this pH range.

THE S. E. VASSENGILL COMPANY

Bristol, Tennessee * New York * Kansas City * San Francisco





TAILBY NASON COMPANY, INC.

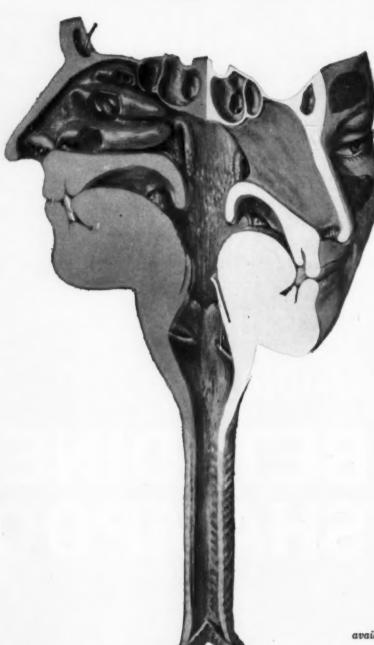


INC. SEBORRNBUC STATE IS ALMAYS FOUND ASSOCIATED WITH BACTERIAL AND YEAST INFECTION. A THUE ANTIDANDRUF PREPARATION MUST BE CAPABLE OF DESTROYING THESE MICROORGANISMS:

- · kills pathogens on contact
- · effective adjunctive therapy in severe pyoderma
- · safe, nontoxic, nonirritating, nonsensitizing
- rich golden lather; pleasantly scented, leaves hair easy-to-manage

Spons H. Proc. Scient. Sen. TGA No. 31, May 105

ALL QUIET ON THE



LATEST
ADVANCE IN
SINUS
AND NASAL
DECONGESTION

SPECIFIC COUGH MODERATOR

BROAD RANGE COUGH/COLD FORMULATION

available only on your prescription

COUGH/COLD FRONT

"KRVI" TABLETS

STIMULATION

7 TABLETS
for prompt, sustained decongestant effect

ANTIHISTAMINE ACTION WITHOUT SEDATION

SYSTEMIC DECONGESTION WITHOUT SIDE EFFECTS ANALGESIC-ANTIPYRETIC ACTION WITHOUT DRUG

ANTI-STRESS VITAMIN TO MAINTAIN TISSUE

USUAL DOSAGE: Adults, 2 tablets initially, then 1 tablet every four hours. Children (6 to 12), half the adult dose.

SUPPLIED: No. 746 - bottles of 100 and 1,000 tablets.

"COTHERA" SYRUP for control of useless/harmful cough

Brand of Dimethoxanate hydrochloride

Acts Selectively—to subdue but not abolish the cough reflex. Safely—non-narcotic, non-constipating, no toxicity reported. Swiftly—acts within minutes...lasts for hours, often providing nightlong relief with a single dose. Surely—preferred to dihydrocodeinone by 4 out of 5 patients.*

*Klein, B.: Antibiotic Med. 5:462 (July) 1958.

"COTHERA" COMPOUND

MODERATES THE COUGH PROMPTLY—SPECIFICALLY without sedation and respiratory depression

COUNTERACTS HISTAMINE-INDUCED SYMPTOMS with full potency and virtually no sedation

RELIEVES SINUS AND NASAL BLOCKAGE by direct, sustained vasoconstricting effect

RELIEVES PAIN, FEVER, AND HEADACHE

through potent but selective central action

SOOTHES IRRITATED MUCOSA AND PROMOTES EXPECTORATION

by demulcent, liquefying, and counterirritant properties

for relief beyond cough control

Each tablet contains: Isothipendyl HCl

("Theruhistin®") ...

l-Phenylephrine HCl . 5 mg. Ascorbic Acid 100 mg.

Aspirin 230 mg.

IN PALATABLE SYRUP FORM Each 5 cc. (one teaspoonful) contains:

Dimethoxanate HCl ... 25 mg.
Isothipendyl HCl
("Theruhistin®") ... 2 mg.
I-Phenylephrine HCl ... 5 mg.
Acetaminophen 100 mg.
Ammonium.chloride ... 100 mg.

Sodium citrate 50 mg. Chloroform 0.25% Contains 10% alcohol

USUAL DOSAGE: For both "Cothera" Syrup and "Cothera" Compound—Adults and children over 8 years—1 to 2 teaspoonfuls (5 to 10 cc.). Children (2 to 8 years)—1/2 to 1 teaspoonful. Three or four times daily.

SUPPLIED: "Cothera" Syrup, No. 934 — Dimethoxanate hydrochloride, 25 mg. per 5 cc. (tsp.); "Cothera" Compound, No. 936 — Bottles of 16 fluidounces and 1 gallon.



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ENOVID

SIMPLIFIES, MAINTAINS CONTROL OF FUNCTIONAL UTERINE BLEEDING

The reliable progestational activity of Enovid has been found highly valuable in controlling such uterine dysfunctions¹⁻⁶ as amenorrhea, menorrhagia and metrorrhagia. By stimulating and supporting the endometrium, Enovid establishes the regular proliferative, secretory and, on withdrawal, menstrual phases of the uterine cycle.

MENORRHAGIA OR METRORRHAGIA—Two 10-mg. tablets of Enovid will usually sharply decrease or arrest profuse anovulatory bleeding^a within twenty-four to forty-eight hours. The daily dosage of 20 mg. can frequently be reduced to 10 mg. after seven to ten days. Courses of treatment should be repeated from day 5 to day 25 of three consecutive cycles and then withdrawn to determine whether the menstrual cycle has returned to normal.

Enovid (brand of norethynodrel with ethynylestradiol 3-methyl ether) is supplied in uncoated, scored tablets of 10 mg. each.



1. Kistner, R. W.: Conservative Treatment of Endometriosis, Postgrad. Med. 24:505 (Nov.). 1958. 2. Southam, A. L.: Symposium on Enovid: Clinical Application of Enovid and Other Progestational Agents in Control of Menstrual Disorders, Chicago, Searle Research Laboratories, 1959, pp. 11-14. 3. Roland, M.: Effects of Norethynodral on the Human Endometrium, Ann. New York Acad. Sc., 71:638 (July 30) 1958. 4. Kupperman, H. S., and Epstein, J. A.: A Symposium on 19-Nor Progestational Steroids: Gonadotropic-Inhibiting and Uterotropic Effects of Enovid, Chicago, Searle Research Laboratories, 1957, pp. 32-45. 5. Weinberg, C. H.: Symposium on Enovid: Enovid for Relief of Dymenarthea and Control of Dysfunctional Bleeding and Endometricsis, Chicago, Searle Research Laboratories, 1959, pp. 19-24. 6. Greenblatt, R. B.: Symposium on Enovid: Progesterone and Progestins: Their Limitations and Comparative Values, Chicago, Searle Research Laboratories, 1959, pp. 4-10,



Normal late secretory phase of the endometrium. By establishing such a progestational phase, Enovid becomes highly useful in managing uterine dysfunctions.





MODERN MEDICINALS

These brief résumés of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

Actifed, Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, New York. Scored tablets, each containing 2.5 mg. triprolidine hydrochloride and 60 mg. pseudoephedrine hydrochloride; or syrup, each 5 cc. teaspoonful containing one-half the amount supplied in each tablet. Indicated for the prophylaxis and treatment of respiratory tract congestion and associated allergic manifestations. *Dose:* Older children and adults, 1 tablet or 2 teaspoonfuls of syrup three times a day. Younger children as directed by physician. *Sup:* Tablets in bottles of 100; syrup in bottles of 1 pt.

Ademol, E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corp., New York, N. Y. Scored tablets, each containing 500 mg. flumethiazide. Indicated to establish and maintain diuresis in edematous patients. *Dose:* As directed by physician. *Sup:* Bottles of 60.

Allercur, J. B. Roerig & Company, New York, New York. Clemizole hydrochloride. For symptomatic relief of various allergic and pruritic conditions, including seasonal hay fever, eczema and itching skin rashes around body openings. *Dose:* Average daily divided dose is 2 to 4 tablets (40 to 80 mg.). Up to 8 tablets a day may be taken if circumstances warrant. Average dose for children 3 to 6 years is one-half to two tablets daily;

for children over 6, one to three tablets daily. *Sup:* 20 mg. tablets (desert tan scored) in bottles of 100.

Akineton, Knoll Pharmaceutical Company, Orange, New Jersey. Scored tablets, each containing 2 mg. biperiden, (1-bicycloheptenyl-1-phenyl-3-piperidino-propanol-1) HC1. Indicated for the treatment of all types of Parkinson's disease, also in drug-induced parkinsonism and certain forms of spasticity not related to the extrapyramidal system. Dose: As directed by physician. Sup: Bottles of 100 and 1000.

Chlorostrep Suspension, Park, Davis & Co., Detroit, Michigan. Orange flavored suspension, each 4 cc. of which contains 125 mg. chloromycetin and 125 mg. dihydrostreptomycin. Indicated for treatment of enteric infections of the diarrheal type and for prophylaxis and treatment of infections encountered in intestinal surgery. *Dose:* Adults, 4 to 16 cc. repeated every 6 hours. Children, as directed by physician. *Sup:* Bottles of 60 cc.

Coricidin Nasal Mist and Coricidin "D," Schering Corporation, Bloomfield, New Jersey. New forms of Coricidin, both of which include Chlor-Trimeton with aspirin, phenace-Continued on page 94a

Bright new star

in the antibacterial firmament

the first nitrofuran
effective orally
in systemic bacterial infections

ALTAFUR

Effective clinically in upper respiratory infections, pneumonias, soft tissue infections, bacteremia/septicemia, osteomyelitis, wound infections and pyodermas.

Effective in vitro against the following organisms (isolated from clinical infections listed above):

Organism	Sensitive	Resistant	% Sensitive
Staphylococci*	181	1	99.4
Streptococci	. 65	1	98.5
D. pneumoniae	14	0	100.0
Coliforms	34	3	91.8
Proteus	5	5	50.0
A. aerogenes	8	0	100.0
Ps. aeruginosa	- 5	4	55.5

^{*}Includes many strains resistant to antibiotics.

As with all nitrofurans in years of extensive clinical use, there is little or no development of bacterial resistance with ALTAFUR.

NITROFURANS—a unique class of antimicrobials—neither antibiotics nor sulfonamides
EATON LABORATORIES, NORWICH, NEW YORK

when the rheumatic disorder is more than salicylates alone can control...

MORE
HIGHLY INDIVIDUALIZED
THERAPY
FOR THE
RHEUMATIC
"IN-BETWEEN"

...but
control
requires less
than
intensive
steroid therapy
alone

Aristo

wider latitude in adjusting dosage

ARISTOGESIC is particularly effective for relief of chronic—but less severe—pain of rheumatic origin. ARISTOGESIC combines the anti-inflammatory effects of ARISTOCORT® Triamcinolone with the analgesic action of salicylamide, a highly potent salicylate. Dosage requirements for ARISTOGESIC are substantially lower than generally required for each agent alone. The exceptionally wide latitude of dosage adjustment with ARISTOGESIC permits well-tolerated therapy for long periods of time with fewer side effects.

Indications: Mild cases of rheumatoid arthritis, tenosynovitis, synovitis, bursitis, mild spondylitis, myositis, fibrositis, neuritis, and certain muscular strains.

Dosage: Average initial dosage: 2 capsules 3 or 4 times daily. Maintenance dosage to be adjusted according to response.

Precautions: All precautions and contraindications traditional to corticosteroid therapy should be observed. The amount of drug used should be carefully adjusted to the lowest dosage which will suppress symptoms. Discontinuance of therapy must be carried out gradually after patients have been on steroids for prolonged periods.

Each ARISTOGESIC Capsule contains:

ARISTOCORT® Triamcinolone	0.5	mg.
Salicylamide	325	mg.
Dried Aluminum Hydroxide Gel	75	mg.
Ascorbic Acid	20	mg.

Supply: Bottles of 100 and 1,000.





LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Complete...for



Loromex Compact

offers you the most for your discriminating patients

Contains: Koromex Coil spring diaphragm
Koromex Jelly—regular size tube
Koromex Cream—trial size
(inclusion of jelly and cream allows
patient to select the one best suited
to physiological variants)
Koromex Introducer

*Sanitary plastic, zippered storage bag, washable, appealingly feminine Also available with flat spring Koromex or with arcing diaphragm (Koro-Flex)

HOLLAND-RANTOS CO., INC. . 145 HUDSON STREET . NEW YORK 13, N.Y.

for laxative results without laxative harshness

in geriatric DOXII

THE SURFACTANT LAXATIVE

Acting on a surfactant-softened fecal mass, Doxidan gently stimulates a weakened bowel musculature to normal intestinal action. Defecation is as gentle as possible, free from strain or pain; thus Doxidan is valuable in cardiovascular and other geriatric conditions. No bowel distention or fear of impactionno oily leakage or interference with essential vitamin absorption. Because there is no rebound constipation, there is a greatly reduced tendency towards laxative dependency.

DOSAGE: For adults and children over 12, one or two capsules. For children, age 6 to 12, one capsule. Administered at bedtime for 2 or 3 days or until bowel movements are normal. Supplied in bottles of 30 and 100 soft gelatin capsules.



tin, caffeine and phenylephrine. Indicated for symptomatic relief of discomforts usually associated with the common cold, sinus conditions and nasal allergies. *Use:* As directed on package. *Sup:* Nasal Mist in plastic squeeze bottle of 20 cc. Tablets in boxes of 12 and bottles of 100.

Decadron Phosphate, Merck Sharp & Dohme, Division of Merck & Co., Inc., Philadelphia, Pennsylvania. Three new formulations, Decadron Phosphate 0.05% Ophthalmic Ointment, 0.1% Ophthalmic Solution, and 0.1% Topical Cream. The Ophthalmic Solution and Ointment are indicated in allergic conjunctivitis, sty, granulating eyelids, pink eye, and against inflammation due to chemical irritants and foreign bodies. The Topical Cream is indicated in infantile eczema, atopic dermatitis, and pruritus ani. Use: Administered topically as directed by physician. Sup: Solution in dropper bottles of 5 cc., Ointment in tubes of 3.5 Gm., Cream in tubes of 5 Gm, and 15 Gm.

Dechotyl, Ames Company, Elkhart, Indiana, Yellow trapezoid-shaped tablets, each containing 200 mg. dehydrocholic acid, 50 mg. desoxycholic acid, and 50 mg. dioctyl sodium sulfosuccinate. Indicated to provide gentle and gradual transition from chronic constipation to normal bowel function. Dose: Average adult dose, two Trablets at bedtime, or as directed by physician. Sup: Bottles of 100.

Declomycin, Lederle Laboratories Division, American Cyanamid Company, Pearl River, New York. Demethylchlortetracycline. Antimicrobial range is similar to tetracycline which has proven effective in controlling more than one hundred diseases. *Dose:* Adult dosage is 600 mg. per day, given 150 mg. q.i.d. or 300 mg. b.i.d. For infants and children daily dosage is 3 to 6 mg. per pound of body weight, divided into two or four doses. Sup: 150 mg. capsules (two-tone red) in bottles of 16 and 100.

Florinef-S Ophthalmic Solution, E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corp., New York, New York. Clear, sterile preparation of fludrocortisone hemisuccinate with neomycin gramicidin. Indicated to afford prompt relief of itching, smarting, inflamed eye lesions. *Use:* As directed by physician. *Sup:* Bottles of 2.5 cc. with non-breakable ophthalmic droppers.

Madribon Pediatric Drops, Roche Laboratories Division of Hoffmann-La Roche Inc., Nutley, New Jersey. Each cc. provides 250 mg. Madribon. Indicated in the treatment of upper respiratory and other infections in infants and young children. Dose: As directed by physician. Sup: Plastic containers of 10-cc.

Neo Decadron, Merck Sharp & Dohme, Division of Merck & Co., Inc., Philadelphia, Pennsylvania. Three new formulations, Neo-Decadron 0.1% Ophthalmic Solution, 0.05% Ophthalmic Ointment, and 0.1% Topical Cream. Combination of dexamethasone 21-phosphate and neomycin sulfate. The Ophthalmic Solution and Ointment are indicated in allergic conjunctivitis, sty, granulating eyelids, pink eye, and against inflammation due to chemical irritants and foreign bodies. Topical Cream is indicated in infantile eczema, atopic dermatitis, allergic eczema, housewives dermatitis, occupational dermatitis, seborrheic dermatitis, and pruritus ani. Use: Topically, as directed by physician. Sup: Solution in dropper bottles of

Continued on page 101a

easiest way to stop a cough



Tessalon

peries

Tessalon perles stop cough fast—and they're convenient to take. No mess, no spillage, no awkward spoons or bottles to carry around. Another advantage: no taste. An exact, effective dose is sealed in a tiny gelatin sphere.

Reasons why Tessalon stops cough so effectively: it acts where cough begins—in the chest; it acts at the cough reflex center—in the medulla; it acts promptly—within 15 to 20 minutes, the effect lasting up to 8 hours. Tessalon is not a narcotic, yet has been reported 2½ times more effective than codeine in suppressing cough.

SUPPLIED: Tessalon Perles, 100 mg. (yellow); bottles of 100. Tessalon Pediatric Perles (for children under 10), 50 mg. (red); bottles of 100. Also available (for use when oral administration of Tessalon is precluded);

Ampuls, 1 ml. (5 mg.); cartons of 5.

1. Shane, S.J., Erzyski, T.K., and Copp.,
S.E.: Canad, M.A.J. 77:600 (Sept. 15) 1967.

TESSALON® (benzonatate CIBA)

C 1 B A

Summit, New Jersey

Remember
SERPASIL*
(reserpine CIBA)

for the anxious hypertensive with or without tachycardia

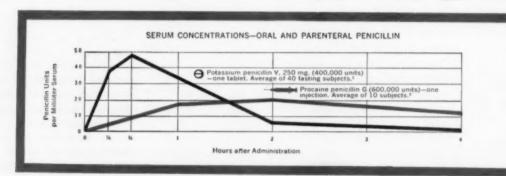
a/2736mm

in oral penicillin therapy

the speed of action you want the reliability you need

In recent studies involving 107 subjects, effective penicillin blood levels were *consistently* produced within 15 minutes after administration of oral potassium penicillin V. Peak levels were obtained within a half-hour. Even after two hours, effective penicillin blood levels still persisted in *every* subject. At four hours, demonstrable blood levels existed in 93 per cent of subjects.¹⁻²

PEN.VEE K may be prescribed for all infections responsive to oral penicillin ... and even many usually treated with parenteral penicillin



Peck, F.B., Jr., and Griffith, R.S.: Antibiotics Annual 1957-1958, Medical Encyclopedia, Inc., p. 1004.
 Wright, W.W., and Welch, H.: Antibiotic Med. 5:139 (Feb.) 1958.
 White, A.C., et al.: Antibiotics Annual 1955-1956, Medical Encyclopedia, Inc., p. 490.

The antibiotic that is prescribed most often for common bacterial infections . . .

penicillin

In a form that produces high penicillin blood levels rapidly and reliably . . .

potassium penicillin V

In two dosage strengths and preparations to assure acceptance by patients . . .

PEN·VEE K

Liquid: Penicillin V Potassium for Oral Solution; Tablets: Penicillin V Potassium, Wyeth



LIQUID

flexibility of dosage form and high potency assure acceptability of full therapeutic dosage

SUPPLIED: Liquid: raspberry-flavored, 125 mg. (200,000 units) per 5-cc. teaspoonful. Supplied as vials of powder to make 40 cc. Tablets: 125 mg. (200,000 units) and 250 mg. (400,000 units) in vials of 36.

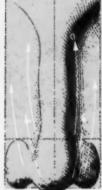


TABLETS



penetrating

NOSE-OPENER BIOMYDRIN



Biomydrin

Hasal Spray

speeds medication to the site of irritation

penetrates, causing prompt dispersion of mucoid secretions. This deep infiltration allows all therapeutic agents to remain active for prolonged periods.

spreads almost instantly.

clears the air passages.

decongests without causing rebound congestion.

controls the allergic component.

combats infections.

safe-no pediatric dosage form is needed.

nasal spray drops



Thonzonium bromide 0.05% Neomycin sulfate 0.1% Gramicidin 0.005% Thonzylamine HCl 1.0% Phenylephrine HCl 0.25% 15 ml. stomizer or dropper bottle.

Also, **Blomydrin* F assal apray with hydrocortisone alcohol 0.02% — useful in the most stubborn rases of edema and inflammation. 15 ml. atomizer.



Modess Tampons ... flexible

following vaginal therapy or medication, your gynecological choice

> You are invited to use the coupon on the next page for a free box of Modess Tampons and copies of a new booklet especially written to save your time in answering patients questions.

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Save your valuable time!



"Essence of Womanhood"

Order your FREE copies today!

..... a new 36-page booklet saves your time by answering your patients' questions about menstrual hygiene problems and other aspects of their lives as women.

Edited by physicians

-easy to understand

-anatomically correct
illustrations.

among the contents:

- · The Reproductive System
- Menstruation
- Pregnancy
- · Breast Self-Examination
- · When To Consult Your Physician
- Pelvic Examination
- Vaginal Discharge
- Difficulties During Menstruation
- Menopause

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Please send me:

"Essence of Womanhood", ____copies

A free box of Modess Tampons

Super Regular

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City______State_____

A service to the medical profession by the makers of

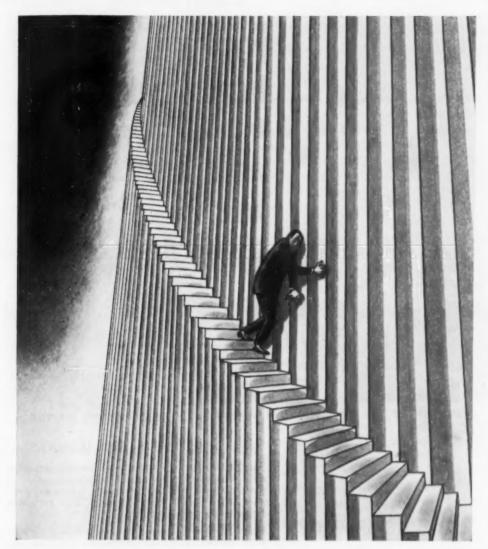
Modess Tampons

flexible

PERSONAL PRODUCTS CORPORATION

Milltown, New Jersey

a Johnson Johnson Company



The nightmare of hypoglycemia

It can happen, almost without warning, to many diabetics on insulin. One moment, the patient appears normal; the next, he goes into a state of hypoglycemia, perhaps even shock. For some it is a terrifying threat with which to live.

But for many of these patients there is a rational alternative: *oral* management. On Orinase,* control is smoother, blood sugar levels are more steady – and the terror is dispelled. Some brittle diabetics are "stabilized" on combined Orinase-insulin therapy.

For all your responsive patients on Orinase, there is the assurance of better control and easier patterns of living. **TRACEMAR, RCE, U. G. PAT. OFF. — TOLENTANDER, UPJOHN

Upjohn UKIN

Fostex® treats their

acnewhile theywash



degreases the skin helps remove blackheads

dries and peels the skin

... and this is how it works

Fostex provides essential actions necessary in treating acne. It washes off excess oil. It unblocks pores by penetrating and softening blackheads. It dries and peels the skin, removing papule coverings, thus permitting drainage of sebaceous glands.

Fostex contains Sebulytic®,* a combination of surfaceactive wetting agents with remarkable antiseborrheic, keratolytic and antibacterial actions...enhanced by sulfur 2%, salicylic acid 2%, hexachlorophene 1%.

*sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate and sodium dioctyl sulfosuccinate.

Your patients will like Fostex because it is so simple to use. They simply wash acne skin 2 to 4 times a day with Fostex, instead of using soap.



... in 4.5 oz. jars. For therapeutic washing in the initial phase of oily acne treatment.

Write for samples.



...in bar form. For therapeutic washing to keep the skin dry and free of blackheads during maintenance therapy. Also used in relatively less oily acne.

WESTWOOD PHARMACEUTICALS

Buffalo 13, New York

5 cc., Ointment in tubes of 3.5 Gm., Cream in tubes of 5 Gm. and 15 Gm.

Norflex, Riker Laboratories, Inc., Northridge, California. White tablets, each containing 100 mg. orphenadrine citrate. Indicated to relax skeletal muscle spasm, increasing the mobility of the involved muscles. *Dose:* One tablet twice a day. *Sup:* Bottles of 50.

Norisodrine Syrup, Abbott Laboratories, North Chicago, Illinois. Honey-mint flavored syrup, each 30 ml. of which contains 18 mg. isoproterenol sulfate, 900 mg. calcium iodide (anhydrous), and 6% alcohol. Indicated for relief of established asthmatic attack and prophylaxis against asthma. Also effective in treatment of allergic cough and respiratory infections in which symptoms are aggravated by an allergic component. *Dose:* Adults, 1 teaspoonful four times daily, or as directed by physician. *Sup:* Bottles of 1 pt.

Panheprin 40,000, Abbott Laboratories, North Chicago, Illinois. Highest potency solution of heparin sodium supplied by Abbott (40,-000 USP units per ml.). Indicated as an adjunct in the management of atherosclerosis and other conditions associated with hyperlipemia. *Dose:* 40,000 units intramuscularly or subcutaneously. *Sup:* Vials of 2 ml.

Panthoject, U. S. Vitamin & Pharmaceutical Corp., New York, New York. Injectable solution of d, calcium pantothenate, 250 mg. per cc., for intramuscular use. Indicated to provide faster restoration of normal intestinal motility and function. *Dose:* 1 cc. injected intramuscularly preoperatively and/or immediately following intra-abdominal surgery. Repeated every 6 hours until normal intestinal motility is restored. *Sup:* 10 cc. multipledose vials in boxes of 6.

Parafon With Codeine, McNeil Laboratories, Philadelphia, Pennsylvania. White, scored tablets, each containing 125 mg. chlorzoxazone, 300 mg. acetaminophen, 15 mg. codeine phosphate. Indicated for use in severely painful musculoskeletal disorders. *Dose:* 1 to 2 tablets three or four times daily. *Sup:* Bottles of 24.

Permitil, White Laboratories, Inc., Kenilworth, New Jersey. Tablets, each containing 0.25 mg. fluphenazine dihydrochloride. Indicated to relieve symptoms of anxiety, tension and emotional unrest without depressant effect or impaired alertness. *Dose:* As directed by physician. *Sup:* Bottles of 50 and 500.

Phemithyn, Flint, Eaton & Co., Decatur, Illi-Illinois, Concentrated solution of benzethonium chloride monohydrate 3.17% in an aqueous solution, mildly perfumed.

Indicated as a vaginal cleanser and deorderizer effective against monilia albicans and trichomonas vaginalis and feotus. *Use:* Usually a diluted solution of 1:5000 concentration. *Sup:* Plastic bottles of 4 oz.

Polanil, Schering Corporation, Bloomfield, New Jersey. Tablets, each containing 2 mg. Polaramine, 0.25 mg. Deronil, and 75 mg. ascorbic acid. Indicated to aid in the control of severe hay fever conditions, chronic asthma, and other allergies which fail to respond to antihistamines alone. *Dose:* As directed by physician. *Sup:* Bottles of 50.

Pramilets, Abbott Laboratories, North Chicago, Illinois. Filmtabs containing a combination of vitamins and minerals to provide vitamin-mineral support for pregnancy and lactation. *Dose:* One or more filmtabs daily,

the promise of PERMITIL

in everyday office practice

safely control the "target symptoms" of emotional stress with the smallest effective dosage (0.25 mg. b.i.d.) of any neuroleptie* agent





the premise

Emotional tension states, psychosomatic disorders and similar neuroses constitute a major portion of the clinical conditions seen today in everyday office practice. Whether the emotional stress is in the form of a behavioral disturbance characterized by anxiety, anxiety accompanying specific organic disorders or chronic conditions in which anxiety is a contributing factor, the aim in therapy is the same: to alleviate emotional stress and enable the patient to cope with life's problems more effectively and to live more comfortably.

The choice of an agent to overcome the patient's particular "target symptoms" of emotional stress, without impairing alertness or productivity, or producing undesirable reactions, is often a difficult and haphazard task. Yet, one may be guided by the fact that there is a correlation between the dosage of a phenothiazine derivative and the frequency and the type of side effects it causes, the less of the drug needed to achieve therapeutic results, the less likely are side effects. Thus, the lower the effective dosage of a phenothiazine derivative, the lower the incidence of unwanted side reactions and, conversely, the higher the level of therapeutic response.

Now, with PERMITH, the physician may prescribe a neuroleptic anti-anxiety agent of extraordinary potency and effectiveness, at unprecedented low dosage, with minimal side effects—features that markedly distinguish this compound from other anti-anxiety agents.



the promise

Extensive clinical studies have established important psychopharmacologic advantages for Permitti. The effective dosage of Permitti. (0.25 mg. b.i.d.) is the lowest safe dosage of any anti-anxiety agent. Side effects associated with dosage not exceeding 1 mg. per day have been uncommon and transitory.

Unlike other phenothiazines, Permitte alleviates symptoms of anxiety, tension, agitation and emotional unrest without depressant effect, impaired alertness or slowed intellectual function.

Furthermore, anxiety-induced symptoms of apathy, indifference, listlessness, reduced initiative and chronic emotional fatigue (often refractory to other phenothiazines) frequently respond to administration of Permittl. Thus, a significantly wider spectrum of "target symptoms" amenable to therapy is an outstanding property of Permittl.

Onset of action with PERMITIL is rapid and patients soon become more relaxed and less tense. The patient regains a more confident outlook and normal drive is restored.

PERMITTI. has an inherently long duration of effect. This makes possible a particularly convenient and easy-to-remember schedule of morning and evening dosage.

The promise of Permitti. in everyday office practice, then, is the more effective control of the "target symptoms" of emotional stress with the lowest safe dosage of any anti-anxiety agent.

*neuroleptic-

"The term 'neuroleptic' implies a specific effect of a pharmacologic agent on the nervous system. It refers to a mode of action on affective tension that distinguishes this response from that to hypnotic drugs. The terms 'ataraxics' and 'tranquilizers' are descriptively impressive, but fail to convey what seems psychopharmacologically unique."

PERMITIL

to fit the promise to your office practice

"The pharmacologic management of psychiatric disorders challenges the therapeutic acumen of the physician. He must choose a drug which will produce remission as quickly as possible with the least risk." In this regard, Permitil represents an advance over its predecessors because of its higher level of therapeutic response and low order of side reactions.

The adjunctive use of Permittle by the family physician enables him to provide effective pharmacotherapy for many of the emotional symptoms which constitute a major portion of patient disability in everyday office practice.

The Areas of Usefulness for PERMITIL:

- Behavioral disturbances characterized by anxiety, tension, apprehension and instability, as well as depressive symptoms associated with anxiety states
- Emotional stress accompanying organic disorders and complicating recovery from, or acceptance of, the underlying condition
- Chronic disorders in which anxiety and stress are contributing factors, e.g., gastrointestinal dysfunctions, neurodermatitis, asthma, premenstrual tension, arthritis, hypertension and tension headache

How to Prescribe PERMITIL:

PERMITIL has an inherently long duration of effect so that it need be given only twice a day making possible an easy-to-remember morning and evening dosage program. The lowest dose of PERMITIL that will produce the desired clinical effect should be used.

The recommended dose for most adults is one 0.25 mg. tablet twice a day

This may be increased to two 0.25 mg, tablets twice a day if required. Total daily dosage in excess of 1 mg, should be employed only in patients with relatively severe symptoms who have had a trial of lower dosages first that were well tolerated but were only partially effective. In such patients, the total daily dose may be increased to a maximum of 2 mg., given in divided amounts. (Dosage for children has not been established.)

Side Effects-Infrequent; Contraindications-Minimal:

At the recommended dosage of Permitil, side effects have been observed infrequently or not at all. Permitil, as with other phenothiazines, is contraindicated in severely depressed states.

Available in Tablets of 0.25 mg.; bottles of 50 and 500.

References: 1. Freyhan, F. A.: Psychopharmacology Frontiers, Boston, Little, Brown and Co., 1959, p. 7. 2. Ayd, F. J.: The current status of major tranquilizers, in press.

Whites

WHITE LABORATORIES, INC., Kenilworth, New Jersey

even if your oatient is a lobscouser

he'll be under way again soon, once he's on

PARAFON

for muscle relaxation plus analgesia

and in arthritis PARAFON® with Prednisolone



McNeil Laboratories, Inc · Philadelphia 32, Pa.

strains - rheumatic pains

Each Parafon tablet contains:

300 mg.

Acetaminophen 300 mg., and prednisolone 1.0 mg. Dosage: One or two tablets t.i.d. or q.i.d. Supplied: Tablets, scored, buff colored, bottles of 36.

when prescribing Parafon with Prednisolone.

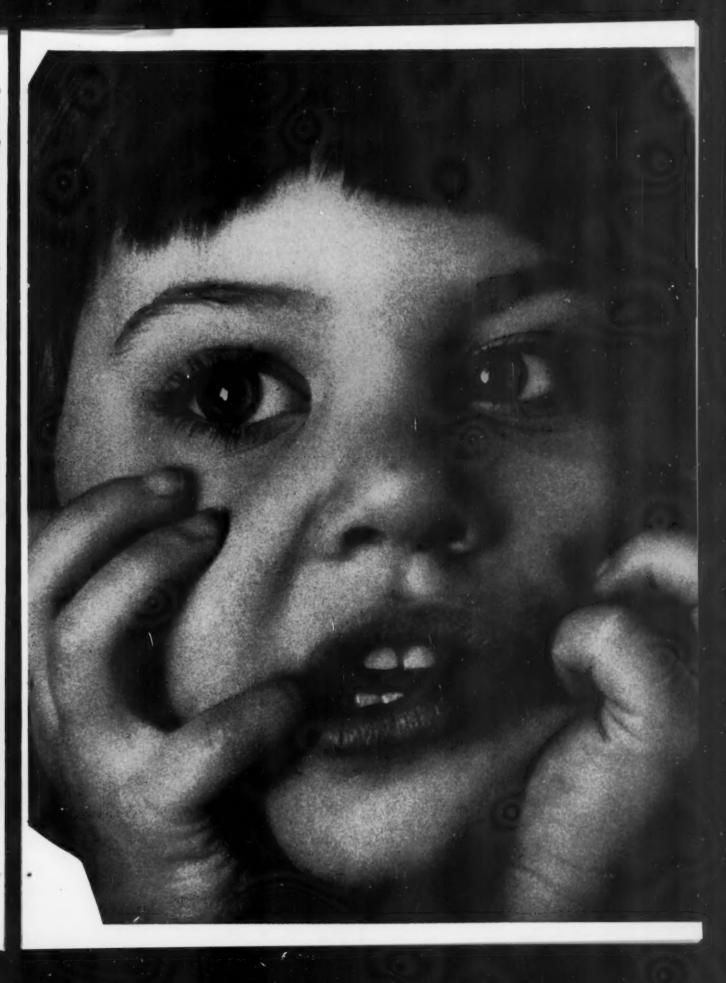
bed time, story time, Syrup Phenergan Fortis time for a sick child.

Syrup Phenergan Fortis calms the restless child, controls nausea and vomiting, eases itching, quiets coughing.

children like the cream-mint flavor of Syrup Phenergan Fortis, parents like the way it's accepted, physicians like the comfort it providesand the minimal side-effects.

SYRUP **PHENERGAN® FORTIS** HYDROCHLORIDE Promethazine Hydrochloride, Wyeth





or as directed by physician. Sup: Bottles of 100 and 1000.

Prolixin, E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corp., New York, New York. Tablets, each containing either 1.0, 2.5, or 5.0 mg. fluphenazine dihydrochloride. Indicated for treatment of a variety of mental disorders, including schizophrenia, mania, senile psychoses and psychoses due to organic brain disease. *Dose:* As directed by physician. *Sup:* Bottles of 50 and 500.

Saluron, Bristol Laboratories, Syracuse, New York. Oral diuretic with sustained action to provide more effective diuresis with a single daily dose. *Dose:* As directed by physician. *Sup:* 50 mg. scored tablets in bottles of 50; syrup in bottles of 8 oz.

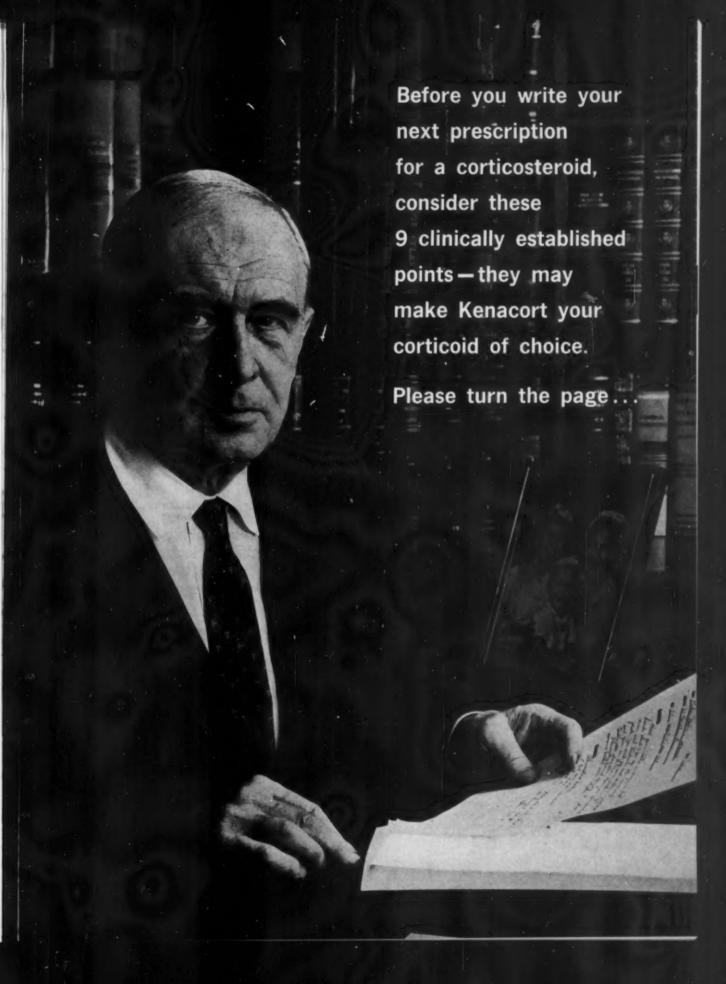
Syntussin Compound, Ives-Cameron Company, Philadelphia, Pennsylvania. Capsules, each containing 2 mg. chlorpheniramine maleate, 7.5 mg. phenylephrine hydrochloride, 10 mg. dextromethorphan hydrobromide, 64.8 mg. terpin hydrate, 194 mg. acetaminophen,

and 25 mg. ascorbic acid. Indicated for allaround symptomatic relief in colds and acute upper respiratory infections. *Dose:* One capsule q.i.d. *Sup:* Bottles of 48.

Tral Injectable, Abbott Laboratories, North Chicago, Illinois. Ampoules of hexocyclium methylsulfate. Indicated for the rapid relief of severe pain associated with peptic ulceration, severe colic and spasm of the intestinal smooth muscle, and diarrhea leading to dehydration. Dose: Initial recommended dosage is 2 ml. (10 mg.). Sup: 10 mg. ampoules containing 2 ml. of a 0.5% solution (w/v) which is isotonic. In individual cartons or cartons of 5 ampoules.

Vi-Daylin Dulcet Tablets, Abbott Laboratories, North Chicago, Illinois. Citrus-flavored vitamin tablets containing 8 essential vitamins for growing children. May be chewed like candy, allowed to dissolve in the mouth, or crushed and given in water, milk, fruit juice or cereal. *Dose:* 1 to 2 or more Dulcet tablets daily according to age and condition of child. *Sup:* Bottles of 30 and 100.





consider therapy continue therapy consider...

pre-prescription point number 1

initial therapy remarkably free from complications

Allison, J. R., Sr., and Allison, J. R., Jr.: Monographs on Therapy 3:99 (Oct.) 1958. pre-prescription point number 4

absence of edema

Council on Drugs: J. A. M. A. 169:257 (Jan. 17)1959.

pre-prescription point number 2

continuing therapy
-maintenance doses
are low

Feinberg, S. M.; Feinberg, A. R., and Fisherman, E. W.: J. A. M. A. <u>167</u>:58 (May 3) 1958.

pre-prescription point number 5

less likely to create electrolyte disturbance

Bongiovanni, A. M.; Mellman, W. J., and Eberlein, W. R., J. Pediat. 53:3 (July) 1958.

pre-prescription point number 3

no sodium or water retention—low salt diet not necessary

> Hartung, E. F.: J. A. M. A. 167:973 (June 21) 1958.

pre-prescription point number 6

no secondary
hypertension—no
significant change
in pulse, respiration,
or blood pressure

or blood pressure
Shelley, W. B.; Harun, J. S., and Pillabury, D. H.:
J. A. M. A. 167:959 (June 21) 1958.
Bernsten, C. A., Jr., and others:
New York Rheumatism Association, Annual Meeting,
New York, April 9, 1959.

Kenacort

pre-prescription point number 7

no excessive appetite

J.A. M.A. 169:257 (Jan. 17) 1959.

pre-prescription point number 8

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Shelley, W. B.; Harun, J. S., and Pillsbury, D. M.; J. A. M. A. <u>167</u>:959 (June 21) 1958. Council on Drugs: J. A. M. A. 169:257 (Jan. 17) 1959.

> pre-prescription point number 9

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Hartung, E.F.: J. A. M. A. 167:973 (June 21) 1958.

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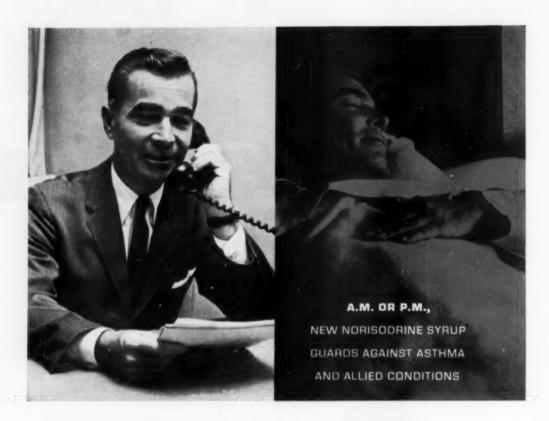
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HOARSENESS

F. JOHNSON PUTNEY, M.D., Philadelphia, Pennsylvania

oarseness is a symptom, not a disease, and a warning which should not be ignored. It results from interference with the phonatory function of the larynx the cause of which may lie in the larvnx itself, or in some other organ or system and when neglected, overlooked or temporized with, may lead to a hopeless endstate. For normal speech approximation, tension and vibration of the vocal cords are necessary, and any lesion that interferes with one or all of these factors produces hoarseness. A vibrating column of air is set in motion by the larvnx and as this air passes through the pharynx, nose and sinuses on expiration the sound becomes resonate enabling the mouth, lips and tongue to form clearly enunciated words. Differentiation of voice changes brought about by interference with the resonating and articulating mechanisms from those produced by hoarseness of laryngeal disease must be made. Examples of abnormalities producing modifications of the voice from faulty articulating and resonating mechanisms are enlarged tonsils and adenoids, deviation of the nasal septum, nasal or pharyngeal obstructions, limitation of the tongue movement from either inflammatory or neoplastic lesions, palatal paralysis and congenital cleft palate and lip. The changes brought about by these lesions can be described as a muffled, thick or nasal sound and should not be designated as hoarseness. Hoarseness embraces all altera-

tions of the voice contingent upon laryngeal abnormalities including the various gradations as huskiness and aphonia. The first symptom of a general systemic disease may be manifested by disturbance in the larynx producing hoarseness. The cause may lie at a distant point from the larynx but a definite lead can often be obtained from the pathologic change in the larynx.

The diagnosis of hoarseness is made from the sound of the voice and the patient, his family or friends are usually the first to notice any change. Patients having hoarseness may have other symptoms such as clearing of the throat, sensation of a foreign body, dyspnea, difficult or painful swallowing, pain either locally or referred, wheezing, cough, and hemoptysis. Vocal fatigue may precede or accompany hoarseness and the temporary lessening of the dysphonia resulting from local rest sometimes is misleading.

The cause of hoarseness is determined by adequate examination. An inferential diagnosis should never be made nor should a diagnosis be arrived at without inspection of the larynx. A systematic plan of examination should be followed for two or more lesions may coexist in the same patient. Examination of the larynx

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by mirror or direct laryngoscopy or both is mandatory to determine the cause of hoarseness and a negative opinion should not be rendered until the entire larynx has been inspected. When an abnormality exists proper measures to find out its nature are necessary. The larynx should receive as meticulous an examination as any other portion of the body and at times the services of a physician especially proficient in the diagnosis and treatment of laryngeal disorders are required. Hoarseness lasting longer than a few days, unless associated with an acute upper respiratory infection, calls for an examination of the larynx together with such systemic studies as may be indicated. One always considers the possibility of papilloma or foreign body in children, tuberculosis in early adult life and cancer in later life. The laryngoscopic appearances of tuberculosis, chronic laryngitis and fungus infections often are confusing and cancer may be mistaken for each of them, so that it is necessary to biopsy all proliferative or ulcerating lesions of the larynx.

Even though some diseases exhibit a predilection for certain areas of the larynx this cannot be accepted as diagnostic. Cancer more often attacks the vocal cord in its anterior half, tuberculosis commonly involves the posterior region of the larynx, and syphilis manifests a preference for parts other than the vocal cords although the cords often are involved in the secondary stage. Papillomas frequently are attached to the anterior half of one or both vocal cords, but in children often appear simultaneously on the vocal cords, ventricular bands, epiglottis and subglottic regions.

Certain laryngeal lesions have a typical appearance and a provisional diagnosis can be made, but this must be corroborated by additional data before final conclusions are reached. A positive serologic result would be expected in a patient whose laryngeal lesion appeared typical of syphilis. A patient whose larynx exhibited a lesion suggestive of tuberculosis should have evidences of pulmonary tuberculosis. In cancer both time and skill may be needed to visualize completely the anterior

portion of the larynx and secure a representative biopsy specimen.

The underlying cause of hoarseness must be found early to insure adequate therapy. Delayed diagnosis results from one of the following: (1) failure of the patient to consult a physician soon enough, (2) omission of a larvngeal examination by the physician, or (3) inability of the physician to visualize or recognize a lesion in the larynx. Implication of the physician is present in two instances while responsibility rests with the patient in only one. The patient may receive treatment for a condition not related to the hoarseness thereby losing valuable time in arriving at the correct diagnosis. Useless operations on the nose, throat and sinuses can be avoided if primary attention is focused on the larynx. Delay proves serious if diseases such as carcinoma and tuberculosis are present. Too often in laryngeal malignancy the patient when first seen has a growth outside the laryngeal box, or one so extensive as to require total removal of the voice box. A diagnosis of chronic laryngitis is justifiable only after all other causes for hoarseness have been ruled out and may entail laboratory, medical, neurologic or roentgenologic examinations in addition to laryngeal examination.

Etiology

The causes of hoarseness are numerous and complex. Certain of these may be local in the larynx whereas others, although extralaryngeal, may affect the larynx directly. The more common local laryngeal conditions are tumors (malignant and benign), granulomata, acute and chronic inflammations and infections, polyps, vocal nodules, keratosis, syphilis and tuberculosis. Other less common diseases are mycotic infections, contact ulcer, injury, abscess, edema, agranulocytosis, laryngeal spasm and functional dysphonia. In most of these laryngeal disturbances histologic study is indispensable in arriving at the correct diagnosis and it is the most important single examination.

Hoarseness may be due to general diseases

or to central nervous system causes, for any lesion effecting the vagus nerve or its laryngeal branches with consequent laryngeal paralysis may produce hoarseness. Systemic causes include aortic aneurism, carcinoma of the trachea or bronchus, carcinoma of the esophagus, mediastinal metastasis, tuberculosis, thickened pleura, carcinoma of the thyroid, cardiac disorders, blood dyscrasias and allergy. Diseases of the central nervous system and toxic neuritis resulting from lead poisoning, diphtheria and certain acute virus diseases are additional general causes of hoarseness.

Congenital lesions of the larynx manifested by hoarseness include webs, cysts, stenoses and congenital laryngeal stridors. They usually produce symptoms early in life and when marked, may cause great distress. In these instances obstruction is usually a prominent feature.

In hoarseness coming on acutely and abruptly, marked edema and inflammation around the glottis is frequently observed. This may be induced by inhalation of irritating vapors, acute infectious diseases, such as septic laryngotracheobronchitis, injuries or wounds, foreign bodies, and perichondritis. Acute laryngitis follows many colds, and children are especially prone to develop spasmodic laryngitis with respiratory infections. Infectious laryngitis and diphtheria cannot be overlooked in hoarseness associated with an acute febrile reaction.

The main laryngeal tumors arise from epithelium, while the underlying supporting tissues contribute relatively few new growths. By far the most frequent site of laryngeal involvement in both benign and malignant tumors is the vocal cord.

Benign Tumors

Benign tumors produce early, rapidly increasing huskiness, along with an unstable voice and easy voice fatigue. The common benign neoplasms, causing hoarseness by interference with accurate vocal cord approximation, are air and fluid sacs (Fig. 1), papillomas and inflammatory lesions, which are not true neoplasms but have been variously designated as

angiomas, fibromas, and polyps. Two types of papillomas are recognized: (1) those occurring in adults, which may be either single or multiple, villous-like, pedunculated, or flat; and (2) those occurring in children which tend to recur after removal, are usually numerous and resemble warts. The inflammatory lesions are ordinarily attached to the vocal cords, present a globular, smooth, reddish or pale, and ofttimes pedunculated appearance. The true tumors such as fibroma and chondroma are fixed to the underlying structures of the larynx and often grow submucosally without actual ulceration on the surface. The smooth appearance of the overlying epithelium may be misleading when a tumor lies beneath the surface.

Chronic Granulomas

Tuberculosis and syphilis are always diagnostic possibilities in chronic hoarseness and the laryngeal appearance may be confused with carcinoma. Routine serologic examinations and roentgen studies of the chest are helpful in any laryngeal disorder, and it is always well to remember that carcinoma may coexist with syphilis or tuberculosis. In certain instances non-specific granulomas (Fig. 2) with no definite etiologic factor produce marked changes in the larynx, even to the point of obstructing the airway. In others, histoplasmosis or chronic fungus disease are responsible. Irrespective of the location or appearance of a lesion, histologic corroboration is the essential factor in differentiating these chronic diseases.

Laryngeal tuberculosis is secondary to pulmonary tuberculosis, but the first symptom of the general disease may be hoarseness. Tuberculosis of the larynx develops slowly and often produces pain, either localized to the laryngeal area or referred to adjacent structures, frequently to the ear. Attention has been called to the pale larynx of tuberculosis, but edema and redness limited to the arytenoids, interarytenoid area, or epiglottis have been observed. When the vocal cords are involved, tuberculosis produces thickening of the cords with some superficial ulceration. In the interarytenoid area, rarely involved primarily in



FIGURE 1 Roentgenogram of patient admitted to hospital with aphonia, difficulty swallowing and breathing. Dyspnea was so marked that emergency tracheotomy was necessary. The large mass obstructing the airway and food passageway proved to be a laryngeal cyst on surgical removal.



FIGURE 2 Hoarseness associated with a large inflammatory swelling of the external neck surface. Examination of larynx revealed a granulomatous lesion which on histologic study was reported as chronic granuloma. The secondary neck swelling was caused by invasion of the cartilage and perichondritis.

cancer, papillary hypertrophy and swelling over the arytenoid cartilages is often seen.

Syphilitic lesions of the larynx are not common, and in the presence of a positive serologic test the diagnosis can only be made by exclusion. In laryngeal disorders a positive serologic reaction does not necessarily mean that the laryngeal lesion is due to syphilis. Before a diagnosis of laryngeal syphilis is made, roentgen study of the chest, sputum examinations for tubercle bacilli, and a biopsy should be obtained. Luetic lesions customarily give rise to an intensely reddened larynx with marked hyperplasia and occasionally ulcerations. These lesions are rarely sharply localized, but are

diffuse throughout the larynx. The iodides when used in laryngeal syphilis must be administered with great caution, for by increasing and enhancing the edema, acute obstruction may develop.

Chronic Laryngitis

Chronic laryngitis develops from repeated acute attacks of laryngitis, chronic sinus disease, exposure to irritants as smoke and dust, or misuse of the voice. The voice becomes weak and hoarse, especially in the early part of the day, but improvement is noticed as the day progresses. Speaking is poorly tolerated and sensations of dryness, stickiness and burn-

ing are present. Hyperemia and hyperplasia of laryngeal tissues frequently occur, and the vocal cords become thick, irregular, dull, and, because of submucous proliferations, elevations are produced at various points. In one form, the epithelial hyperplasia appears as small local nodules on the free margins of the vocal cords, which are designated as vocal or "singer's" nodules. Hyperplasia of the entire membranous cord is found at times, giving rise to thick, edematous, polypoid vocal cords. Cupped forceps are particularly useful in removing either the small localized nodules or stripping the entire membranous cord under direct vision.

Keratosis

In leukoplakia or keratosis the outcome is carcinoma in approximately two-thirds of the cases, and microscopic examination of tissue from the lesion affords the only means of distinguishing malignant from benign change. In those instances that are benign on the original examination, carcinoma develops later in over twenty percent. Keratosis commonly is manifested by a diffuse gray thickening with superficial ulceration overlying a portion of one or both vocal cords, and sometimes the whole lesion can be removed with one bite of the cutting forceps. If malignancy exists, even though the entire involved area seems completely removed histologically, the operation of laryngofissure should be considered.

Carcinoma

The diagnosis of carcinoma is not difficult provided the disease is suspected; and any chronic dysphonia should arouse suspicion. While carcinoma most often affects the anterior half of the larynx and usually originates on the vocal cords, it may be found in any portion of the larynx. Lesions in the anterior portion of the larynx produce hoarseness early in the course of the disease by interfering with approximation of the vocal cords, while hoarseness may be a relatively late symptom in lesions involving the epiglottis and posterior portion of the larynx. Hoarseness occurs early in car-

cinoma of the vocal cord and is persistent, becoming progressively worse. In laryngeal malignancy, aphonia and pain are late symptoms. Mirror examination frequently reveals an uneven cord with a rough, nodular surface or an infiltrating lesion with fixation of the involved vocal cord. Vocal cord cancer may extend above the surface or beneath the mucosa, spread to the opposite cord and ultimately extend outside the larvnx, eroding the cartilages and obstructing both the air and food passageways (Fig. 3). Malignant laryngeal neoplasms by extension endanger the adjacent vital structures, generally metastastizing first to the cervical lymph nodes. At times, primary involvement of the subglottic area, ventricular bands, and ventricle is observed. Carcinoma of the subglottic area tends to spread and metastasize rapidly, rendering a less favorable prognosis than other types of intrinsic laryngeal cancer. Malignant lesions of the epiglottis, arytenoids, aryepiglottic folds and posterior portion of the larynx are not uncommon.

Early diagnosis has not been a salient factor in successful surgical treatment because the disease in many patients is too far advanced to be cured when first examined. A high proportion of cures is obtained in laryngeal carcinoma as compared with malignancies elsewhere in the body, due chiefly to the anatomic construction of the larynx (enclosure in a cartilaginous box) and the poor lymphatic drainage both of which contribute to relatively late metastasis. When the diagnosis is made early the percentage of survivals is increased tremendously. By early diagnosis these lesions are discovered while the growth can still be adequately removed and the voice box retained or treated by irradiation therapy.

Laryngeal Paralysis

Paralysis of the larynx arises from peripheral or central lesions involving the vagus nerve or its laryngeal branches in its course intracranially or in the neck. Central lesions effecting the vagal nuclei are not common but recurrent nerve paralysis is observed in some bulbar

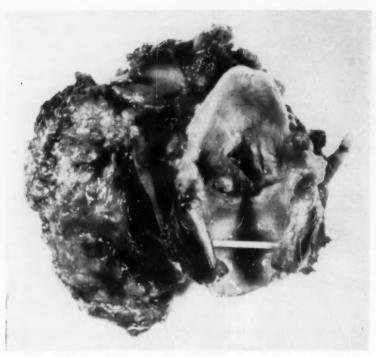


FIGURE 3 Larynx and neck dissection of a patient with large fungating carcinoma of the larynx. Hoarseness had been present for one year, but breathing difficulty finally brought the patient to the hospital.

lesions as poliomyelitis. Paralysis of central origin commonly is associated with paralysis of other cranial nerves, especially the ninth and eleventh.

The causes of paralysis of the larynx due to encroachment upon the vagus nerve along its extracranial course may be produced by mechanical, neoplastic, traumatic and toxic factors.

In the usual form of recurrent nerve paralysis i.e. the abductor type with the vocal cord fixed in the midline, when unilateral, the voice may sound normal; but if bilateral, breathlessness becomes the chief difficulty. In total severence of the vagus nerve or involvement of the nucleus, the vocal cord takes on a bowed appearance which allows air to escape on phonation with characteristic hoarseness. When the vocal cord is tense and fixed in the

mid-line with good tone there may be little resulting voice disturbance.

The most frequent cause of paralysis is malignancy from primary involvement of the bronchi (Fig. 4), thyroid gland, trachea, and esophagus or metastatic lesions of the mediastinal and cervical lymph glands. Injury to the recurrent laryngeal nerve in thyroid surgery and aneurism of the aortic arch are responsible for most of the remaining instances of paralysis. Benign thyroid enlargement seldom produces recurrent nerve paralysis. If preoperative examination of the larynx reveals paralysis, even though there are no other suggestive features, malignancy should be suspected. In trauma produced by thyroid surgery one or both recurrent nerves may be injured. Mediastinal enlargement due to metastatic lymph nodes, Hodgkin's disease, tuberculosis

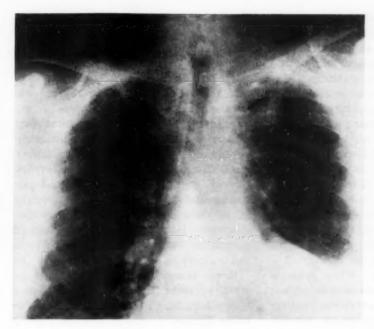


FIGURE 4 Patient complained of hoarseness and indirect laryngoscopy revealed paralysis of the right vocal cord. Roentgenogram of the chest demonstrated a lesion in right upper lung field and mediastinum which proved to be carcinoma on subsequent bronchoscopic examination. Exploratory thoracotomy confirmed the clinical impression of inoperability.

or inflammatory lesions may induce vagal irritation or paralysis. In wounds of the neck, either stabbing or gunshot and neck operations, such as diverticulectomy, the recurrent nerve may be damaged. Enlargement of the left auricle, pericardial effusion and extension from the upper lobe of the lung in tuberculosis are other rare causes for recurrent nerve paralysis.

Treatment

Since many diseases of the larynx are local manifestations of systemic disease, the need for careful study before instituting treatment is apparent. Tumors of the larynx, foreign bodies, injury and its sequelae, require local treatment.

Acute infections of the larynx respond well to vocal rest, removal of all forms of laryngeal irritation, such as smoking, inhalations of steam vapor with either menthol or compound tincture of benzoin and direct applications of a mild soothing medication as monochlorophenol to the laryngeal mucosa. General systemic measures consisting of proper rest, food and ventilation are adjuncts in the treatment, but rarely is systemic medication in the form of antibiotic therapy needed unless the temperature is unduly elevated or the patient is in danger of laryngeal obstruction. In small children with acute fulminating laryngotracheobronchitis or croup both the administration of antibiotics and oxygen with proper humidification are needed.

Chronic laryngitis is controlled by removal or correction of the etiologic factors which may be local, systemic or environmental. Vocal rest may be an important part of the treatment, especially in patients who are prone to abuse their voice or talk loud, long or continually. Removal of common irritants such as smoking and the excessive use of alcohol should be practiced. In some cases the tissue becomes so hyperplastic and redundant that all forms of conservative therapy are useless and surgical removal by direct laryngoscopy is needed.

After injury to the larynx, either direct or indirect, respiratory obstruction should be an-

ticipated. Most frequently the larynx is injured by an indirect blow upon the chest, head or mandible, causing a hematoma in the larynx but direct blows or other injuries may produce actual fracture of the laryngeal cartilages. The immediate treatment consists in establishment of an airway even by tracheotomy if this becomes necessary. If the injury is confined to the mucosa with hemorrhage, edema and inflammation, no further treatment may be required. In crushing blows with loss of laryngeal cartilage or fracture of such, repair and restoration of the airway is essential. Penetrating wounds may involve the esophagus as well as the larynx and prompt repair is necessary to prevent mediastinitis, overflow into the tracheo-bronchial tree or the creation of a esophagocutaneous fistula. When extensive fibrosis and scar tissue have formed removal of the scar and reconstructive surgery using a well tolerated prosthesis becomes necessary.

Abscess of the larynx occurs both in adults and children and when it occurs in the latter it may be quite serious requiring prompt tracheotomy, in order to prevent asphyxiation. The symptoms may develop quite rapidly and in the course of a few hours, not only does the hoarseness turn into aphonia but the child develops stridor, wheezing and difficulty in breathing. In the adult, the symptoms may develop just as rapidly but generally the large size of the larynx obviates the need for tracheotomy, although difficulty in breathing occurs in many instances. The usual site of abscess formation is either the epiglottis or arytenoids. Treatment consists in appropriate and prompt antibiotic therapy and as soon as fluctuation or liquefaction occurs, incision and drainage by direct laryngoscopy.

Malignant tumors are treated either by surgery or irradiation. In the early lesions both surgery and irradiation therapy are curative and in the properly selected early cases, seventy-five to eighty percent five year survivals are secured by laryngofissure or partial laryngectomy. Surgical treatment yields the greatest number of five year cures of any method of

therapy but irradiation also gives a high percentage of survivals in early cancer limited to one vocal cord without fixation and with free mobility. In these early malignancies of small extent and limited to a freely movable vocal cord, removal of the growth by laryngofissure is the prevailing operative procedure. In the more advanced lesions surgical treatment offers a more favorable prognosis than irradiation therapy and laryngectomy with simultaneous block dissection of the neck to remove all cervical lymph nodes, gives the highest percentage of five year survivals. The resulting loss of the voice should be a secondary consideration. However, most laryngectomized patients develop a satisfactory esophageal voice and can carry on their occupation.

Benign tumors are treated by surgical removal by direct laryngoscopy. After benign tumors have been removed it is necessary to follow surgical excision by a period of vocal rest for five to seven days. Following the resumption of voice use the patient should moderately utilize his voice until healing has become complete. Diathermy or electrocoagulation has little place in the treatment of benign tumors because of the danger of injury to the underlying structures and cartilage which may be irreparable.

Vocal nodules or singer's nodes are best treated by proper voice therapy. By getting the patient to talk in the proper range and avoiding vocal stress to which the larynx has been subjected results in improvement and eventual elimination of the nodules. Surgical removal is followed by prompt recurrence unless voice instruction is secured and proper use of the voice obtained.

Contact ulcer is another benign condition due to improper voice use which responds best to vocal therapy although these cases usually present problems in the restoration of voice due chiefly to the fact that the ulceration involves the vocal process of the arytenoid and sets up a perichondritis that is difficult to eliminate. Vocal rest offers little aid and antibiotic therapy has no value. Removal for histologic study may be necessary to rule out malignancy

but is not practiced as definitive treatment.

Elimination of all forms of voice abuse including talking, smoking and excesive use of alcohol is essential in the treatment of keratosis. Stripping of the keratotic lesion from the vocal cord is advised for histologic examination of all of the tissue, followed by a period of vocal rest and elimination of all forms of laryngeal misuse. If the keratosis persists or recurs the likelihood of the patient developing cancer is enhanced. Irradiation may be indicated and has produced beneficial results in some cases. If the keratosis is malignant or becomes malignant appropriate treatment has to be instituted without delay.

In unilateral paralysis of the larynx the voice usually is reasonably good and no treatment is required other than to establish the underlying cause. The dyspnea resulting from bilateral paralysis requires surgical measures for the relief of the dyspnea and restoration of the airway. This consists in either removal of the arytenoid and lateral fixation of one vocal cord or mobilization and lateral fixation of the vocal cord to the thyroid cartilage, thereby improving the airway. Restoration of a satisfactory airway is produced at the expense of the voice, and the strength of the vocal tone is impaired although the voice remains adequate for ordinary conversational use.

Summary

Hoarseness is a symptom of disturbed laryngeal function requiring prompt investigation, the first step of which is visualization of the entire larynx. The larynx may be involved by tumors, either benign or malignant, tuberculosis, syphilis, acute and chronic infections, congenital lesions, keratosis, or injuries. Hoarseness, likewise, may be a manifestation of a general disease, which has effected the vagus nerve in some portion of its course, producing paralysis of a vocal cord. Injury to the recurrent nerve during thyroidectomy, toxic neuritis,

blood dyscrasias and allergic upsets are other causes of hoarseness. Hoarseness is usually the first symptom of carcinoma, and the diagnosis of chronic laryngitis or other less serious afflictions should be made only after all grave causes have been eliminated. In addition to laryngeal examination, serologic studies, and roentgenologic studies, particularly of the chest, are necessary to render a correct diagnosis in many instances.

1712 Locust Street

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LEUKEMIA, RADIATION AND FALLOUT

Some Observations on United States Leukemia Death Rates from 1940 to 1954 and the Possible Role of X-Radiation and Fallout



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There is no doubt that the rate of leukemia in the United States is increasing. In Table 1 are listed the pertinent data for the years 1940, 1949 and 1954. The death rates due to leukemia for the total population are 39, 54 and 65 per million per year respectively. The year 1940 antedates the nuclear age by five years, while 1949 and 1954 depict the situation for both five and ten years after the first nuclear detonation. As a result of the increased rate shown, it has been claimed that the x-radiation, both external and internal, due to world-wide fallout is one reason for this increase. 2

Whether young or old, we all live in a bath of world-wide fallout, and we all have equal external exposure, although, because of metabolic differences, the internal hazard may be more pronounced in the younger population.³ With this as a background, the death rates from leukemia in 1940, 1949 and 1954 in the United States were examined in terms of broad age group response, in relation to the total population, to determine whether there was a generalized or specialized increase in the leukemia death rate.

When the population of the United States is divided into two groups, those under 55 years of age and those 55 years and over, and the leukemia information partitioned to the appropriate age group, a startling difference is observed. Table 1 shows that from 1940 through 1954 in those under 55 the rate of leukemia

deaths has increased from 27 to 35 per 1,000,-000 per year. But over the same time period the population 55 and over has shown a death rate increase of from 109 to 208. This marked difference is shown graphically in Figure 1. It is obvious that the population of the United States is not contributing uniformly to the increased incidence of leukemia. This finding has been noted previously.4, 5 Under the age of 55, the increase in rate is 30%, but for 55 and over, the increase is 91%. If, as has been proposed, world-wide fallout x-radiation affects the total population with the young, not the old, at more risk,3,6 fallout alone can hardly serve as an explanation for the increased rates observed.

What then is the reason for the undisputed increase in the death rate due to leukemia? Certain factors can be presumed for the total population, such as better diagnostic procedures, increases in hospitalization and better reporting methods. These improvements must be responsible for a reasonable apparent increase without presuming additional etiologic agents. It might even be of sufficient magnitude to explain most of the 30% increase in the population under the age of 55 years.

Such improvements would not seem adequate in themselves to explain the 91% increase in leukemia deaths in those 55 and over. Part of the increase may well be due to the simple fact that never before have we been able to determine natural rates of leukemia in a population this aged, especially over the age of 75. Since 1940 the population 75 and over has almost doubled, from 2.6 million to 4.5 million, and their rate of leukemia has soared from about 160 to 370 per million per year.

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TABLE I DEATHS FROM LEUKEMIA AMONG PERSONS UNDER 55 YEARS AND AMONG THOSE 55 YEARS AND OLDER, UNITED STATES, 1940, 1949 AND 1954

YEAR AND AGE GROUP			RATES PER MILLION		
	POPULATION		UNDER 55	55 AND OVER	POPULATION
1940	131	1.7 5,143			39
Under 55	112.1	2,998	27		
55 and Over	19.6	2,145		109	
1949	148	8,102			54
Under 55	123.6	4,041	33		
55 and Over	25.1	4,061		162	
1954	161	.2 10,443			65
Under 55	133.2	4,627	35		
55 and Over	28.0	5,816		208	

^{*} Data for 1940, from the 1940 census; 1949, from U. S. Bureau of the Census, Current Population Reports, Series P-25, No. 98, Table 1; 1954, from Current Population Reports, Series P-25, No. 146, Table 2.

If one accepts the available evidence in man, that the peak of leukemia incidence following x-radiation is on the order of five years, 7, 8 then the increased death rate in the older population cannot be due to a lifelong accumulation of damage from x-radiation. Ten years of fallout x-radiation should have affected the entire population at risk, and there is no statistical evidence of such a change. If x-radiation is a factor at all, it may be that the older population is receiving much more than its share of diagnostic radiology. The increased use of x-ray for diagnosis in recent years has been noted.9

In the final analysis the cause for the leu-

kemia increase is unknown. The factors responsible would appear to be much more potent in the population 55 years of age and over. Investigation to uncover these factors and the reasons for the undue sensitivity of the aged would seem to be more rewarding than attempts to incriminate fallout x-radiation. A recent, more comprehensive report on leukemia deaths in the United States shows a decreasing rate of increase in leukemia mortality for all ages except those over 75, and suggests that leukeomogenic factors in the American environment have stabilized or decreased over the past 15 years. ¹⁰ This, of course, is consistent with the main theme of this report.

Summary

Although the death rate from leukemia is increasing in the United States, from 39 per million in 1940 to 65 per million in 1954, the population is not responding homogeneously. Failure to respond homogeneously means that there is an agent or agents acting on only a portion of the population (those 55 and over) or else that the agent or agents find

latter hypothesis is the reverse of the commonly undue sensitivity in the older population even while the entire population is at risk. The accepted belief that younger individuals are more susceptible to the effects of x-radiation, and as such is suspect if the inciting agent is presumed to be x-radiation. Factors that are predominant in the population over the age of

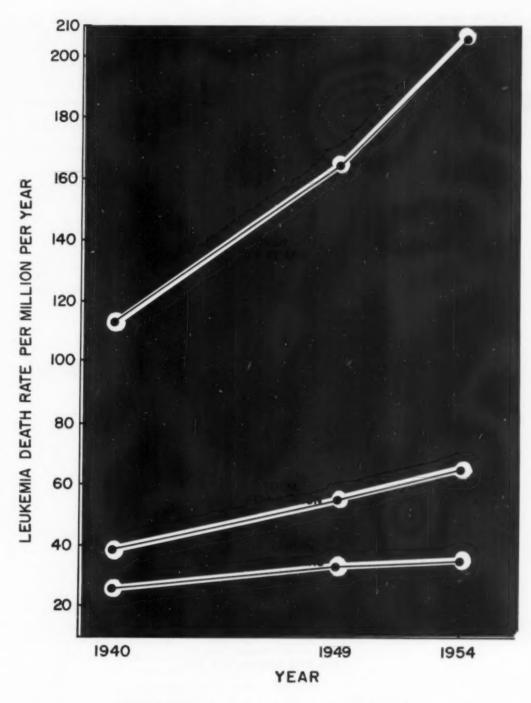


FIGURE 1 Leukemia death rate for 1940, 1949 and 1954 for the total population, those under 55 and those 55 and over.

54 years should be sought, for it is here that the bulk, if not all, of the unexplainable increased death rate from leukemia has occurred.

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Toward the Clinical Integration of Medicine and Psychiatry

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In order to demonstrate the modern handling of medical problems, let us take the physician called upon to treat three successive patients with myocardial infarction.

The first patient is put to bed, given morphine, papaverine, sedation, anticoagulants, and recovers uneventfully. He is cooperative, uncomplaining, and is rehabilitated without difficulty. In helping this patient stay alive, the physician essentially directed his attention toward the cardiac lesion by attempting to prevent an extension of the damage and by facilitating the healing of the damaged heart.

The second patient developed his infarction after months of "gradually mounting tension"

and an episode of "acute emotional" stress.\(^1\) After two days in bed, he becomes anxious and attempts to deny his illness. He gets out of bed contrary to orders, states that he has no more pain, proclaims to all that his difficulty was merely indigestion, and gives several rational reasons why he must get back to work immediately.

Patient number three goes through the early stages of cardiac infarction and in time develops a stabilized ECG, a normal sedimentation rate, and so on, but does not rehabilitate himself. He becomes depressed, has severe anxiety with sharp pains under his left breast, has anxiety about his impotence, can't sleep and can't work.

These three patients all suffer with the same disease, acute myocardial infarction, but the management of each must be significantly different. Medical texts in general will detail the treatment of the cardiac lesion but will have little to say about the management of the individual with the disease.

The basic framework of a successful approach to this problem is the adoption of a "Comprehensive Concept" of people and their illnesses. 2,2,4 The initial question in this patient-oriented type of medical thinking and practice is "Who is the patient and What is going on?" whereas previously, the first question in medicine was "What is the disease?"

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This means that in addition to the usual physiologic measurements, the physician will have to observe and measure his patients along psychiatric dimensions. Thus the physician will study his patient from a variety of perspectives which reveal that disease is a result of multiple causal factors, and that any one or several of these factors may require appropriate therapy. The acceptance of tension, anxiety, and the unconscious as pathogenic factors, together with the possibilities of handling them in therapy is now mandatory.

Here is a graphic example. A patient is brought in with pneumococcus pneumonia. The pneumonia followed after the lowering of the patient's resistances after exposure to cold. This exposure was a result of sleeping on a park bench in a malnourished state due to chronic alcoholism. The alcoholism was a result of a disturbed parent-child relationship occurring early in the patient's life. Hereditary, congenital and aging factors were not significant.

At the time of observation, this patient showed the toxic and pathological signs of pneumonia and the physical and chemical signs of malnourished state and lowered body resistances. Masked by the physical difficulty was chronic tension which had existed in the patient's unconscious since childhood. This had manifested itself by subtle physiologic changes, and socially by poor school relationships in his early life, marital difficulty later and more recently by alcoholism. Now in the hospital, his job is in jeopardy since he has been "slipping" for the last several years, while his family worries about their precarious financial status. In addition, as the physical problem improves with antibiotics and specific supportive measures, the patient becomes irritable, irascible, and attempts to prolong his stay in the hospital as long as possible.

Each of these elements contributes to and is part of the present illness, but the treatment of each requires the formulation of priorities. The initial priority is always directed towards those processes which produce untimely death. In this instance the pneumonia, the malnourished state, and the depleted physical resistances get first attention. If the physician stops here, his effort may have merely postponed the unconscious impulses hastening toward future selfdestruction. Thus, an attempt should be made to treat the psychiatric and sociologic problems.

If the tensions associated with the underlying personality problem can be favorably altered, this may lead to an entirely new physical, personality and social adjustment. If this is not possible for one reason or another, however, the sociologic problems involving the job, the family, and the finances can be helped with appropriate counselling.

If our example had been an instance of chronic ulcerative colitis, certain patients having asthma, a functional psychophysiologic reaction, or a psychiatric problem, it is possible that curative therapy would give higher priority to initial consideration of emotion, anxiety and tension, and its conscious and unconscious psychopathology.

This integration of psychiatric knowledge in the everyday practice of medicine will require the observation and measurement of some essential psychic processes in four specific areas. These are:

 A. the measurement of emotions, tension and anxiety;

- B. the measurement of ego-strength;
- C. the measurement of psychodynamics;
- D. the measurement of the doctor-patient relationship. The method of collecting these measurements is the interview. The interview is a skill that can be learned and can be integrated with the customary "organic-symptom" historytaking. Finally, the evaluation of all the data will lead to the understanding of the patient and the disease, and to rational therapy of the appropriate biologic and psychopathological factors.

While some physicians are quite effective with their intuitive abilities in handling the psychic and emotional problems, other physicians are reluctant to become involved with this part of their patient's difficulties. In either event, the employment of a logical and definitive method on a firm scientific basis is essen-

tial to modern practice. This is how we attempt to do it.5-8

The Psychiatric Data

Following the formulation of the historical events leading to the development of the patient's symptomatology and the study of the symptoms themselves, some observations and measurements of basic psychiatric parameters are required.

● MEASUREMENT OF EMOTION, TENSION AND ANXIETY. When the human organism is threatened by an obvious danger, he is startled or frightened until he can correctly identify the danger and institute a defense against it. This defense involves attacking, blocking or removing the threat, or running away from it. This is the well-known biological fight-flight reaction. Appropriate anxiety in this situation is normal. With the correct identification of the threat, the decision to fight it or run away is rational and appropriate. With such action, normal anxiety ceases.

Another group of people, however, become afraid but cannot discover a rational source for these fears. These patients complain of cancer, fear of heights, fear of riding in an automobile, fear of the dark, fear of falling, fear of knives, of being hurt, and the like without objective reason. These intellectual complaints are often accompanied by unpleasant and annoying somatic symptoms such as palpitations, moist and warm skin, dizziness, upper and lower gastrointestinal dysfunctions, a variety of aches and pains, and so forth. These people are suffering from an anxiety neurosis, or hysterical state. This anxiety is called "secondary anxiety." It is a psychopathological state which consists of factors in the present combined with upsetting experiences in the past which often go back to childhood.

The emotions of present and past experiences have been repressed and pushed down into the individual's unconscious where they persist with disturbed intellectual, emotional and physical complaints. These symptoms may initially occur in the form of attacks which last perhaps fifteen minutes to a half

hour. The attacks tend to repeat at increasingly frequent intervals and finally exist in a more or less continuous state.

Patients with secondary anxiety are frequently so preoccupied with their intellectual and physical symptoms that they function with decreased intellectual and physical efficiency. In the physically healthy individual these disturbances in psychophysiology do not lead to organic disease. If they occur in the person who is already suffering from organic disease, however, secondary anxiety can aggravate the existing pathology.

Since the major causes of secondary anxiety are in the unconscious, the patient can neither identify correctly the sources of his fears and upsets, nor can he willfully determine rational fight or flight. Thus the patient with secondary anxiety can only continue to suffer until the exact causes of the difficulty have been elucidated by bringing them out of his unconscious into his conscious mind.

"Primal anxiety" is a biological state observable in all humans and animals. It is an alarm state in which the inner tensions and anxieties have been mobilized in an increasing quantity which results in immediate fight or flight. Unlike secondary anxiety where a patient may suffer alone for long periods, the patient with primal anxiety becomes panicky in a way which may spread to involve husbands, wives, relatives, neighbors, or others in the environment. In such situations, it is not uncommon for the physician to get numerous phone calls from the various individuals around the upset patient. Whereas sometimes these people communicate rational observations, at other times they reflect merely the panicky state which has almost by "contagion" involved a now emotionally-disturbed group.9

The patient with primal anxiety could be said to be in an "anything-can-happen" state. This is the state of impulsive fight or flight. This fight or flight may be either rational, appropriate and helpful, or irrational and increasingly destructive. It is the same powerful emotion that makes "sensible" families, neighborhoods, cities or, nations go into "mob" panics. It is the emotion that leads to so-called spontaneous riots.9

In the "anything-can-happen" state beside the ultimate flight which is suicide, and ultimate fight which is the thoughtful mastering of the true source of anxiety and removing it, the patient may become irrationally confused and go into a schizophrenic or psychotic state. He may develop a biologic illness which rapidly results in his death, or he may find an insight which leads to dramatic recovery. This latter state is close to the so-called "religious conversion."

As noted previously, anxieties have both intellectual and somatic aspects. Sometimes, however, patients repress the intellectual aspects and the remaining somatic manifestations are felt as uncomfortable physiologic symptoms, tensions, or even pain.

All human beings are acutely sensitive and passionately emotional. Although the awareness of the individual of and about himself may vary greatly, studies of the emotional nature of man in psychoanalysis and studies of his physiological reactions amply testify to this fact. If each one of us could be observed in the dining room, alone in the bathroom, and in the bedroom, the truth would be quickly observed. On the other hand we live in a culture which puts a great premium on thinking and performing with no show of emotion or concern. We have been trained to suppress and repress most of our feelings. This we have learned to do almost too well, as the resulting pressures on our physical bodies in the form of anxieties, tensions, and alterations in body physiology and pathology tend to make us suffer unnecessarily and destroy ourselves.

Thus, it is essential in the management of pathological anxiety that we identify and measure the repressed emotions and the tensions that exist within the human organism. We must know whether these are increasing or decreasing, and then with their understanding we can appropriately influence their status.

THE MEASUREMENT OF EGO STRENGTH.
 The ego is the name given to a part of the personality which is engaged in maintaining the body tensions at the lowest possible level (Fech-

ner's Principle) and in a steady state (Homeostasis). Thus, the ego is sorting impulses, identifying, controlling and integrating the person with the world outside himself, and with his own unconscious within himself. The ego makes contact with the "outside" and the "inside" worlds through the five senses. It is involved in directing the behavior, the intellectual, and emotional processes. The ego attempts to keep an eye on the patient's own functioning and welfare and tries to separate healthy, realistic from unhealthy, neurotic activities.

The so-called "Mechanisms of Defense" are ways in which the ego attempts to keep tensions at a low level. These mechanisms involve such things as repression, suppression, regressions, denial, projection, introjection, sublimation, reversal, isolation, rationalization, intellectualization and so forth. These can be studied further in psychoanalytically-oriented psychiatric texts.

At the present time, however, it is necessary to be aware that the human being who is desperately trying to control increased tensions and conflicts will be employing more and more of these mechanisms. As he solves his problems and his conflicts he will require them much less frequently.

The patient who has increasing tensions but is unable to solve them may find the ego overwhelmed and going through stages of ego disruptions which lead to a psychotic or schizophrenic fight or flight. These stages have been described and categorized by Menninger. The following reactions of the ego to disintegrative threats are described:

1. Ego's Normal Reaction to Mild Threats
This would involve simple tension-relieving devices such as humor, tears, fantasies, dreams, acting proud, self-control, passive acceptance activity, overeating, plus increased integrative effort.

2. Ego's Emergency Reactions a. First Order—Alarm and mobilization would be expressed by excessive repression plus excessive suppression, over-alertness, hyperirritability, marked emotionalism and hyperintellection, over-com-

pensation, hyperkineses, withdrawal and hyperability of the sympathetic system.

b. Second Order Emergency Reactions—indicating more serious ego dysfunctions, reveal partial detachment and attempted compensation. Symptoms are dissociation with fainting, isolation, narcolepsy, amentia, depersonalization, displacement, substitution, sacrificing symptoms, self-abasement, self-imposed restriction, asceticism, body mutilation, intoxication and so forth.

c. Emergency Reaction of the Third Order—which indicate increasing failure of the ego to handle the problem, shows a transitory ego rupture with prompt restoration. This is in an episodic phenomenon. It is characterized by panic attacks, catastrophic demobilization, or perhaps assaultive violence, convulsions and so forth.

d. Emergency Reaction of the Fourth Order—ego failure would show a persistent ego rupture or exhaustion with marked detachment. Excitement with erratic disorganized behavior, stupor, agitation, retardation, bizarre reactions, apathy, hallucinations, delusions, confusions, and so forth.

e. Emergency Reaction of the Fifth Order would show a complete ego failure with continuous uncontrolled violence ending in physical exhaustion and in death.

• THE ESTIMATION OF THE DYNAMICS. In addition to the measurements of the emotion. the tension, and the anxieties within the patient and in addition to the observations of the activities of the ego in coping with it, the physician must make an effort to estimate the variety of objects and situations both in the patient's environment and within himself, in his conscious and unconscious, which are at present emotionally invested in the conflict situation. For example, suppose the immediate source of the tensions resulting in colitis is a problem with an irascible boss who is never satisfied with the patient's most conscientious and diligent strivings. Moreover, this boss unconsciously reminds the patient of hostilities and fears of a dominant and unreasonable father. These problems and the patient's effort to solve them would

constitute the dynamics of the immediate problem.

The dynamics of any problem are the emotionally-invested persons or symbols in the outside world and in the unconscious within the patient which are the immediate problem. These dynamics may stay relatively stable and result in a chronic long-term problem or they may change.

While significant supportive help can go to patients merely with an understanding of the increases and decreases in emotion, tension and anxiety, appropriate insight therapy (be it supportive counselling or the more valuable problem solving) must be based on a knowledge of ego activity and the dynamics involved in the immediate situation. Naturally, when a given symptom appears in relationship to a change or problem in the environment (a change in the life situation such as a birth or a death in the family, social or job catastrophe) either with dramatic successes or painful failures, the physician will begin by attempting to link the emotional reactions with these changes. When the emotional problems are obvious, they lead to common sense counselling as a form of therapy. On the other hand when the dynamic aspects of the problem are in the unconscious, they may require more skilled help. This latter is the realm of the dynamic psychoanalytic psychiatry.

● AN UNDERSTANDING OF THE DOCTOR-PATIENT RELATIONSHIP. The "organic tradition" in medicine hoped to develop a doctor-patient relationship that was intellectually geared to its highest efficiency with the elimination of any interest or investment in emotional things. We are now learning that flight into "hyperintellectualization" is good neither for the patient nor his physician. It is, in fact, a therapeutic artifact, since it is impossible anyway. The study of the personality and emotional problems of the patient, however, requires that the physician master new clinical problems.

The physician will have to realize that patients will approach the doctor with a variety of concerns. He wonders what will be done to him. Will it bring pain or hurt? Will he be undressed, touched, examined? If so, how and

why? Will the doctor be kind to him? Will he be disfigured or mutilated? Will he be told the truth? Will what goes on scare him to death? Finally, what will it cost and can he afford it?12

All these concerns on the part of the patient will have to be understood and handled before the patient will be willing to talk freely and cooperate with the doctor.

Some physicians may have to get over certain emotional blocks before being able to be effective with patients on the level of personality and emotions. In some ways it seemed easier for him to keep aloof in the traditional approach when he ignored the emotions of himself and his patients.

Since every patient comes to the doctor with a problem and the doctor is supposed to have the understanding and methods of solving their problem, the physician has to have a realistic omnipotence. On the other hand, the omnipotence which exists inside human beings may not be normal and mature, (mature omnipotence is related only to the physician's wisdom and useful techniques), but may be a part of his own personality maladjustments related to neurotic needs and problems. If neurosis exists in the physician, he may fear being involved with the patient in talking about intimate problem of ambitions, childish dependent needs, hostilities, sexuality and so forth. The physician may fear that this involvement may bring him "down to a patient's level" and that it might take away some of his power and omnipotence. He may fear this to such a degree that he may withhold information and help in the area of psychic and emotional things. On the other hand, a physician's emotional problems may lead him to become unrealistically over-involved with his patient.

The basic aim of the physician in this regard is to develop an intellectual and emotional integrity which values correctness and truth. He must be aware when he is on a sound realistic basis and when he is unable to function because of lack of knowledge or emotional or neurotic block of his own.

Types of Doctor-Patient Relationship On the operational level, the classification of Szasz and

Hollander13 is quite helpful. The first level exists when the patient is most seriously ill and helpless, and almost completely passive in the treatment situation while the doctor has to make all decisions and all ministrations to the patient. A second and higher relationship would exist when the patient is active enough and healthy enough to take guidance from his physician who makes the plans and directs the whole relationship. The third and highest relationship exists when the patient is able to bring his problems to the physician but can function as an emotional and intellectual equal in a system of mutual participation which uses the doctor's superior knowledge and wisdom of the immediate problems and difficulties at hand.

An example of these relationships would find the first state existing with a patient in diabetic coma. The patient is helpless to function for himself and all activity is in the hands of the physician. As the patient comes out of coma and regains consciousness and better chemical and psychic function, he would enter the second state in which he is being regulated as to diet and insulin. Here he is being guided by the physician's judgment and the nurses' attention, but he is actively cooperating. Finally, the patient is able to handle his own diet, his own insulin and his own daily activities while he checks with the physician from time to time in equal participation to maintain the optimum healthy state.

These same relationships can exist in patients with psychic, emotional and psychosomatic problems. Some physicians can function well in one of these levels but not in others. The physician who is interested in achieving his greatest development would be able to function well intellectually and emotionally in all three relationships.

The study and awareness of the emotional investments of the doctor-patient relationship is a life-time effort. 8,14 The doctor functioning with an appropriate intellectual and mature personality in the doctor-patient relationship is his own and the patient's most potent therapeutic tool. On the other hand, the confusions, hostilities and fears which arise when the doc-

tor presents the patient with inconsistencies of intellect and emotion (which are frequently quite obvious to the patient and are communicated to the patient consciously or unconsciously, but frequently remain unknown to the physician himself) may result in the failure of therapy and the loss of the patient. Also, some patients come to the doctor and are angry with him or dissatisfied with him even before he has had a chance to say "hello." In this latter instance, the patient is approaching the doctor with pre-conceived ideas that are repetitions of previous frustrations. This reaction commonly occurs when the patient has a psychological illness of rather serious proportions, although this does not mean that the patient need be psychotic. The unreasonable hostilities in the patient may provoke hostilities within the physician especially if no overt slights, discourtesies, or hostile transactions have occurred. If the physician is stable and wise enough to realize that the hostilities which the patient brings are an immediate problem of the doctor-patient relationship, they can be handled often with gratifying success before they conspire to destroy the treatment. These reactions, however, can never be overlooked, because ignoring them will eventually result in treatment failure or the patient going somewhere else.

The Method

THE INTERVIEW - The interview is the method of collecting the psychiatric observations and data, and the means by which therapy is accomplished. The interview is a type of doctor-patient relationship in which the latter attempts to put into words his behavior, his emotions, his thoughts, his dreams and the environment as he sees and reacts to it. The physician deals verbally with this data. In general, the higher the degree of anxiety and tension, the greater the degree of ego disruption, and the more dynamically sick the patient is, the more difficult will it be for him to translate into organized verbalizations. The responsibility for making it easy for a patient to talk lies largely with the physician. The method and purpose of the interview must be explained to the patient and accepted by him before he will effectively cooperate.¹⁴ Even after he has offered his conscious efforts at cooperation, there will always be a varying number of unconscious resistances which attempt to defeat and hamper the therapeutic effort. These resistances are a basic part of the problem and must be discussed immediately as they arise.

Several general rules will be helpful to the physician in conducting such interviews. The physician should not assume that he understands what the patient means. He should request elaboration and specific details. He should be interested in the patient's concept of the causes of his troubles even when they seem unrealistic and fantastic. The physician must endeavor to find out what this disease means to the patient himself. Does the illness mean he is childish? Does it mean that he is a failure or that he is a cripple? He must learn to ask the patient "why." He needs to be interested in the connotation and denotation of words, and at the same time remember that with the person in conflict, actions may speak louder than words. He must learn when he has emotional blocks which interfere with asking the patient pertinent questions. Frequently, death, suicide, murder and sexuality are subjects in this category. Finally, he must develop some ability in answering or not answering the patient's questions depending on the helpfulness of his action.

Skill with the interview in a wider variety of situations is a life-time study as a part of the doctor-patient relationship.

THE DIAGNOSIS—The understanding of the present illness in all its somatic and psychiatric terms is now possible. The positive findings explain the presenting symptoms and their proximate and approximate causes. The evaluation of the data measuring the anxiety and tension level, the ego strength, the dynamics and the doctor-patient relationship is attempted. From this data a hypothesis is formulated which can explain the present life situation, the symptoms, the childhood relevances and patient's state of stress in coping with these. This may lead to an organic or physiologic diagnosis, a

psychiatric diagnosis, and a dynamic diagnosis. Following the evaluation and formulation, it is now possible to plan the priorities of therapy.

THE THERAPY-In certain cases it is not possible to collect sufficient data to have a complete diagnostic summary in the initial interview. It may require several interviews until this is possible. Some types of therapy, however, do not require complete observations of the unconscious and the dynamics. These are the situations in which the main part of the problem would obviously involve stress from the patient's environment. If the patient's anxiety and tension level is not too great, and if the ego functioning continues on an adequate level reassurance, emotional encouragement, support, and perhaps some counselling may be in order. These are all legitimate and important forms of therapy but they must be based on accurate observations of the patient in order to be meaningful and emotionally useful to the patient. Also, many stress situations are relatively time-limited. In this situation support and encouragement may be successful.

If the problem seems to involve too great a degree of tension, too great a degree of ego disintegration and a dynamic problem with a large part participating from the patient's unconscious, the patient will require consultation with the dynamic psychoanalytic psychiatrist. Following this, it can be determined whether the treatment can be handled by the non-psychiatrist or whether formal psychoanalytic psychotherapy of some type may be required. In cases where the interview reveals little or incomplete data, or the patient distorts the doctor-patient relationship in too great a fashion to ever get the interview going, the psychiatric consultation is indicated.

All therapies are based upon the stable and healthy physician bringing his wisdom to identify with the healthy side of the patient. Together the healthy side of the patient and the healthy physician combine their observations and wisdom to control the tension and emotion caused by the unhealthy part of the patient, while the necessary effort is made to neutralize or remove the conflict and stress with which he

is suffering. In this regard, the patient needs help in learning what part of himself is healthy and what part is neurotic and in conflict. He must learn which impulses are constructive and are helping to solve and create for him a better life, and which are in the service of neurotic and self-destructive aims. He will need help with his distortions and his methods of handling problems. When these require study of the unconscious, he will require a psychoanalytically oriented psychiatrist.

Each physician can continue therapy as long as he understands what he is doing and as long as he is helping the patient. When either of these two situations cease he must have the integrity to know this himself and act appropriately before harm comes to the patient. This usually requires consultation or transferring the patient.

Clinical Examples

CASE No 1—A seventy-five-year-old white widow came to the Comprehensive Medicine Clinic at Temple University Medical Center with the chief complaint of fainting spells. These spells had begun three weeks previously and consisted of episodes of light-headedness and mild dizziness which required her to sit down for a few minutes in order to "get hold of herself." She did not fall nor lose consciousness.

On physical examination she was found to have auricular fibrillation with a rapid ventricular rate and a generalized arteriosclerosis. Additional history disclosed that her local physician had treated the patient with digitalis, but that she had taken only a few pills "because they did her no good." It was concluded that her fainting spells were secondary to the untreated auricular fibrillation and the patient was impressed with the need for adequate and continued dosage of digitalis and told to return at weekly intervals.

In the early visits it was noted that the patient was brought to the clinic by a sister with whom the patient lived. The sister was domineering and volunteered to answer all the doctor's questions. Finally the physician had

to ask her to leave so that he might question the patient alone.

On the third visit to the clinic, the patient told the physician about several of her friends and neighbors who had been "taken over" by relatives when they got old and sick. She told of friends whose relatives stole their insurance, their homes, their money and so forth. The physician suspected that the patient was describing herself and her relationship to her sister. Meanwhile with adequate digitalis, the ventricular rate was slowed and the fainting spells ceased. After this interview the physician saw the sister in the hallway and requested information about the home situation. The sister told the doctor that she had offered to take over the patient's insurance policy and keep up the premiums but that the patient had refused. While the physician and the patient's sister were talking, the patient approached them and overheard some of this conversation. Following this she refused to return to the clinic for further medical care, since she now considered her physician an unfriendly ally of her sister.

In order to re-establish an appropriate doctor-patient relationship, the physician plans to write the patient and request an appointment with her in her home so that they can talk over the problem.

Summary Seventy-five-year-old white widow with fainting spells and rapid auricular fibrillation due to generalized arteriosclerosis, and an early senile paranoid reaction which was initially unrecognized by the physician and with inept handling interfered with an appropriate doctor-patient relationship and treatment.

CASE No. 2—The patient is a twenty-eightyear-old attractive white housewife who came to the Comprehensive Medicine Clinic at Temple University Medical Center complaining of "chronic poor health and heart trouble." In addition she complained of general fatigue, frequent headaches, nervousness, irritability, anorexia and insomnia—all in varying degrees for several years. More recently, and in addition, she had had mild shortness of breath, palpitations and apical pains not related to exertion.

There was no orthopnea, dyspnea, cough, hemoptysis or edema. She had taken no medication for her heart although she stated that during her second pregnancy, nine years earlier, a heart murmur was detected and following this she underwent a tubal ligation. She had recently lost twenty-five pounds and now weighed ninety pounds. She was concerned about frequent menstrual flooding which lasted nine days and occurred either once or twice monthly. Past medical history included a tonsillectomy, appendectomy, and hemorrhoidectomy. She had given birth to two boys, age nine and twelve. The first child was conceived prior to the patient's marriage to the child's father.

Physical Examination revealed a thin nervous white female in no acute distress. There was a soft grade one systolic cardiac murmur heard over the apical and pulmonic areas. Otherwise examination was within normal limits.

Social History. The patient came from a "broken home" in which she described her mother as leading the life of a prostitute. She considered her own marriage unstable and had many complaints against her husband. She considered him aloof, withdrawn, unloving, and interested only in the sexual gratification she could give him. She continued to have difficulty getting along with her mother and expressed guilt over the fact that she "had to get married." She was concerned over the health of her two children and was anxious about the personality development of the younger boy whom she felt to be "feminine." She disliked housework and considered herself "stuck" with her lonely and bored existence.

She had visited many physicians over the past several years and had begun to lose faith in them and in their medications.

Diagnosis Psychophysiologic reaction with cardio-respiratory, gastrointestinal and genitourinary symptoms with somatic signs of increasing tensions and early ego disruptions due to environmental and personality problems.

Plan of Treatment The patient is to be assurred that her symptoms are not threatening her physical health, but represented emotions

and tensions secondary to her unhappy life situation. She is to be encouraged not to regress and give up, and to accept the directive support of an understanding physician who will study her emotional and environmental situation and counsel her on improving her relationships and emotional health. "Common sense" counselling is to emphasize the need for a "new slant on life." It will assist in improving communication, understanding and good-will with her husband, and help her to worry less about the children, and to bring more pleasure and happiness into her life. In order not to tempt this patient into a too-dependent relationship with the physician, she is told that this will be accomplished in six interviews. It is concluded that the patient's ego and integrative abilities are strong enough to be rehabilitated with this regimen.

Follow-Up Patient returned to the clinic two years later because of a complaint of "nerves and chest pains." At this time she reported that she had gained weight, had normal menstrual periods and had improved relationships with her husband, her children, and her mother. While she had been improved remarkably by her initial therapy, she considered her present problems to be related to her marriage and the feelings attendant to being a wife and mother. Although she had her ups and downs, she related well to her physicians and was anxious to study her problems further. She remarked that she had particularly valued the personal interest of the physicians who had helped her previously and who had asked her to come back should she require further

Summary A twenty-eight-year-old wife with psychophysiologic cardio-respiratory, gastro-intestinal and genito-urinary symptoms and personality problems with her feminine role and the people in her immediate environment. She was improved with supporting, counselling psychotherapy with the physician utilizing the doctor-patient relationship as an appropriate "wise father." Improvement and integration after six interviews was observed two years later.

CASE No. 3—Patient is a thirty-four-year-old white male laborer in the city transportation company who comes to the Comprehensive Medicine Clinic in Temple University Medical Center complaining of headaches, general fatigue and impotency of eight months duration. The patient attributed his symptoms to nervous exhaustion and described his married life as father of an eighteen-month-old son as if he were helpless and overwhelmed by it all. He stated that he had been unable to have erections for a period of eight months and during the past several weeks had lost all sexual desires completely.

Physical examination revealed findings entirely within normal limits.

Several interviews were required to develop the social and psychiatric history. The patient disclosed that he considered himself unworthy and awkward and desperately in search of approval from others. He told of many resentments toward his wife, her family and his own family. He felt rejected and exploited by others and considered himself powerless to correct these situations. He openly expressed the feeling that his father-in-law had persecuted him and challenged his masculinity thereby making it hard for him to play his role as father and husband. His own father never recognized the patient's accomplishments and made him feel "insecure." The patient said that he felt he had to compete with his eighteenmonth son for his wife's affection. His whole life appeared to be one of continual frustration and feelings of inadequacy.

A visit to his home revealed the facts that the patient had beaten his wife physically on numerous occasions. There was increasing evidence of a paranoid ideation with behavioral signs of recently increasing anxiety, tension and excitement.

The patient's symptoms represented an attempt to control an increasing amount of repressed emotions, anxiety and tension which had broken out on several occasions in beating his wife. More recently, the tensions increased with physical symptoms, a paranoid ideation and the sexual impotency. Because of the complicated personality problems and the role of unconscious mechanisms in this patient, he was referred to the psychiatric clinic for further evaluation, emergency and personality treatment.

Summary Thirty-four-year-old white male with somatic symptoms representing increasing

emotions, tension and anxiety, signs of ego disruption and paranoid symptoms which suggest a complicated dynamic problem with unconscious factors. He is referred to the psychiatric clinic for further evaluation, control of emotions and ego stability, and appropriate therapy.

Summary

- 1. The clinical integration of medicine and psychiatry requires a "Comprehensive Concept" of illness. The addition of emotion, tension and anxiety, and the importance of unconscious and environmental factors as pathogenic is crucial.
- 2. Clinical measurements in four areas will supply data answering the basic question, "Who is the patient and What is going on." These areas are a measurements of emotion, tension, and anxiety, b. measurements of ego adjustments, c. measurement of psychodynamics, and
- d. measurement of the doctor-patient relationship.
- 3. The method of collecting this data is the interview. Skill in interviewing can be developed.
- 4. Therapy is determined on a priority basis depending on importance of the varying symptoms and the therapeutic opportunities available. When the problem involves unconscious factors, referral to the analytic dynamic psychiatrist is indicated.
 - 5. Clinical examples are included.

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Temple University Medical Center



Psychopharmaceutical Drugs



rom time immemorial man has attempted to alter his thinking and behavior by the use of drugs. Alcohol has been the most continuously and widely used drug of all for the relief of nervous tension, fatigue, and worry. The wise physician, however, seldom advises alcohol as a medicinal agent because of the always present danger of addiction for which the physician would be held responsible. The same objection holds to a less extent for the barbiturates and other older sedatives and for the amphetamines, such as Dexedrine.® Because of this, the search for and recent development of more specific, effective and refined agents to control and correct abnormal thinking, feeling, and behavior is of great interest to the doctor whose responsibility it is to deal with these problems in actual practice.

The advent of the tranquilizers has opened up a whole new avenue of approach to the treatment and understanding of nervous and mental disorders, and it is interesting to note that this has come about more or less empirically. For example, rauwolfia has been used for centuries in India but its mode of action is still obscure. Thorazine® and the other phenothiazines are direct descendants of the antihistamines. Long before the tranquilizers became available many doctors were using Benadryl® as a tranquilizer on the basis of their own observations of its sedative side effect. The development of the phenothiazines was the result of a deliberate effort on the part of the chemists to bring out the tranquilizing properties of the antihistamines and indeed many of the tranquilizers, such as Atarax® and Vistaril® are actually antihistaminics as well.

Meprobamate (Miltown® and Equanil®) is simply a refinement of mephenesin (Tolserol®) which was originally used to produce muscle relaxation. Marsilid,® which is so helpful in the treatment of depressions, was discovered empirically after it was observed to produce a feeling of well-being in tuberculosis patients.

In this field, then, we have a number of drugs concerning which we have a great deal of clinical knowledge but very little understanding as to their actual mode of action. In a reversal of the usual scientific approach, these proven therapeutic agents are being used as a research tool to try to discover the possible chemical basis for such disorders as schizophrenia, depression and even the neuroses. Thus far, not too much is certain except that the action of most of these newer drugs is primarily on the reticular formation, the thalamic, and hypothalamic areas of the brain instead of the cere-

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in General Practice

brum, as with the older sedatives. They apparently act through enzyme systems and brain hormones, especially serotonin, norepinephrine and, in the case of Deaner®, brain acetylcholine. Nor do we know whether these drugs are curative or merely symptomatic in their effect. Be that as it may, we do know that they have revolutionized the treatment of psychiatric disorders and I would like to review the available drugs and describe them individually. There are many other interesting drugs now under investigation but there is not much point in discussing these at this time. Please remember that the following are only my own opinions and impressions, for what they are worth, and that your own experience and that of others might well be at variance with mine.

Psychopharmaceuticals

- PSYCHOINHIBITORS Inhibit normal or abnormal psychological activity.
 - A. Sedative or Hypnotic (Depending on dosage).
 - 1. Barbiturates (Cheap-dependable).
 - Chloral hydrate (Not too habit forming).
 - Paraldehyde (Bad smell and habit forming).
 - Doriden® (May be habit forming like barbiturates).
 - 5. Dormison®
 - 6. Placidyl®
 - 7. Valmid®
 - 8. Noludar® (Seldom habit forming).
 - B. Tranquilizers—More quieting effect with

less sleep producing effect.

- Rauwolfia—Watch for fatigue, mental confusion, peptic ulcers, or depression. Most often used for high blood pressure and schizophrenia.
 - a. Raudixin® (whole root).
 - b. Serpasil®, Rau-Sed®, etc. (reserpine).
 - c. Moderil® (rescinnamine).
 - d. Harmonyl® (deserpidine).
 - e. Rauwiloid® (alseroxylon).
- 2. Phenothiazines-Not habit forming.
 - a. Thorazine® (chlorpromazine).
 - b. Sparine® (promazine).
 - c. Compazine® (Mild, patients more alert).
 - d. Trilafon® (Parkinsonism).
 - e. Pacatal® (Constipation).
 - f. Vesprin®
 - g. Dartal®
 - h. Phenergan®
 - i. Stelazine® (More alert. Parkinson-ism).
 - j. Mellaril®
 - k. Tentone®
- 3. Other Tranquilizers
 - a. Atarax®
 - b. Vistaril®
 - c. Ultran® (May be habit forming).
 - d. Quiactin®
 - e. Nostyn®
 - f. Suavitil® (benactyzine).
 - g. Suvren®
 - h. Softran®
 - i. Trancopal®

C. Tranquilizer-Sedative

- Equanil®, Miltown® (meprobamate)
 —May occasionally produce intoxication and addiction with withdrawal symptoms like alcohol or barbiturates. Occasional skin rash and flulike reaction with fever.
- PSYCHOACTIVATORS Used to combat exhaustion, depression and senile and schizophrenic retardation. None is habit forming except occasionally the amphetamines.

A. Psychostimulants

- Dexedrine®, Desoxyn®, Methedrine®, etc. (amphetamines).
- 2. Meratran®
- 3. Ritalin®

B. Psychoenergizers

- Marsilid[®] (iproniazid)—May cause jaundice or falling from hypotension.
- Marplan®, Niamid,® Catron,® and Nardil® (improved analogues of Marsilid®).
- Deaner®—For mild depression, exhaustion or schizophrenic withdrawal.
- 4. Tofranil (antidepressant).

· COMBINATIONS—

- 1. Dexamyl® (Dexedrine and Amytal).
- 2. Thora-dex® (Thorazine and Dexedrine).
- 3. Deprol® (meprobamate and benactyzine).
- 4. Prozine® (promazine and meprobamate).

Although these drugs have helped in the treatment of nervous and mental cases, they have further complicated the practice of medicine for it is difficult to know what drugs to use in which cases.

In general, I would suggest the following guides for the use of these drugs:

- 1. Familiarize self with only few drugs and learn to use effectively.
- 2. Watch for serious side effects such as:
 - a. Habit formation (Sedatives, Doriden®, Ultran®, Equanil®, Miltown®, Dexedrine®).
 - b. Mental confusion and depression—
 (Rauwolfia, phenothiazines).
 - c. Jaundice—(Thorazine®, Marsilid®).
 - d. Agranulocytosis (Thorazine®, Sparine®, Pacatal®, Vesprin®).

- e. Hypotension (Marsilid®, rauwolfia, phenothiazines).
- Be skeptical of claims for special properties for different drugs until proven in own practice.
- 4. Individualize therapy by giving patient chance to talk about his troubles.

More specifically I will list the drugs that I have found to be most useful in the various nervous and mental disorders. Others may have different preferences, so the following is presented only as my own impressions for what they may be worth.

- A. Anxiety-Tension States.
 - 1. Miltown® or Equanil®
 - 2. Phenobarbital (Much less expensive).
 - Compazine® (For addictive individuals).
- B. Schizophrenia.
 - 1. Thorazine®
- C. Manic-Depression, Manic Phase.
 - 1. Thorazine®
- D. Depressions.
 - 1. Marplan® (antidepressant).
 - Meprobamate (for immediate relief of tension).
 - 3. Barbiturates (for sleep).
 - Dexamyl[®] (for immediate partial relief of depression).

E. Senile Agitation.

- 1. Sparine®
- 2. Barbiturates (for sleep).

F. Alcoholism.

- 1. Sparine®
- 2. Noludar® (for sleep).
- Avoid or use with extreme caution because of habit formation (Barbiturates, Dexedrine®, Doriden®, Miltown® or Equanil®).

G. Psychiatric Emergencies.

 Carry Sodium Amytal in bag for intravenous injection, then call ambulance.

In conclusion, I would like to state that these drugs have had a salutary effect on the treatment of nervous and mental cases far greater than their pharmacological action alone would indicate. Their demonstrated effectiveness has

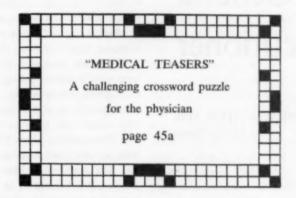
forced psychiatrists to come out of their ivory tower of metaphysical speculation and back to scientifically acceptable medical concepts and practices. Even more important, these drugs have stimulated and enabled the generalist to take care of most of his nervous patients himself. Now that he can give these patients some medicine instead of just talking to them he, paradoxically, is beginning to enjoy talking to them. Getting to know the patient intimately and helping him with his problems has always been one of the greatest satisfactions of medical practice and I am sure no pill will ever take its place.

Summary

The newer psychopharmaceutical drugs have been of great help in the treatment of psychiatric patients in general practice. Indications and contraindications have been discussed and the value of limiting oneself to the use of a few familiar drugs of one's own choice has been suggested. Both the dangers and the curative claims for these drugs have been over-emphasized. Just because a drug is new does not

mean that it is superior to some of the older medications which, incidentally, are usually much less expensive. A discussion of the patient's problems with him should always be used in conjunction with these medicines for psychotherapy is still the cornerstone of all psychiatric treatment.

308 Medical Dental Building





Common Eye Diseases Seen by the General Practitioner

HOMER B. FIELD, M.D. Blue Island, Illinois The late Dr. Sanford Gifford once told me that if a doctor can learn to treat a red eye successfully, his success as an ophthalmologist is assured. One of the most difficult problems faced by the physician is that of getting rid of the red eye.

Probably the most common cause of redness of eyes is due to inflammation of the conjunctiva. Conjunctivitis may be chronic or acute and is accompanied by exudate in greater or lesser amount, depending on the organism. The gonorrheal infection gives heavy drainage; the staphylococcus may give very slight drainage. The pneumococcus gives a hemorrhagic exudate, and the diphtheria organism forms a characteristic membrane.

The condition which must be differentiated from infectious conjunctivitis is allergy. The discharge from allergy will be pure mucous, and as a rule is very stringy and tenacious. In allergy there is apt to be a hyperplasia of the lymph follicles and with this, the conjuctiva becomes very rough and even cobblestone-like in appearance. The vernal catarrah that we see in children may at times assume a grotesque follicular hypertrophy so that the upper lid is tremendously thickened. Subjectively, the patient usually claims itching of the eyes as the most prominent symptom.

Conjunctivitis of the newborn, or ophthalmia neonatorum, may be due to three causes. (1) Silver nitrate burns (2) Mixed infection with the colon and streptococcal organisms and (3) The gonococcus. Most states will require the use of silver nitrate at birth as a prophylactic for gonorrheal infection. It is probable that some of our antibiotics would be as effective or even more effective. When silver nitrate

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is used in the eye it should be washed out well with normal saline. These conditions causing ophthalmia neonatorum respond well to local and systemic antibiotic therapy.

The blocked lacrimal duct or nasolacrimal duct seen frequently in the newborn is characterized by recurrent mucopurulent discharge. Many of these patients can be saved later probing of the tear duct, if at the time of delivery, finger pressure is applied over the lacrimal fossa at the side of the nose. This will many times expel a mucous plug which is blocking the duct. It is important that pressure be exerted against the bone of the bridge of the nose and not on the eyeball. If the duct remains obstructed for several weeks, probing is necessary. In infancy, as a rule, a single probing is sufficient.

Strabismus is best handled by the ophthalmologist, but the general practitioner is the doctor who will first be consulted about this condition. His main function is to screen a child to determine whether the strabismus is real or due to the prominence of the epicanthal fold and the flat bridge of the nose. Cosmetically, many children appear crosseyed early in life when the reason for this appearance is due to the position of the skin of the inner canthus. As the child grows, the skin is pulled into position by the formation of the bones of the bridge of the nose and cosmetically the eyes will appear quite straight. How can the doctor tell when a child is actually crosseyed? A simple technique is the alternate screen cover test in which the child is told to look at a point of interest with one eye while the other eye is covered with the hand or a 3 x 5 card. The child gazes intently at the object while the examiner alternates covering one eye, then the other, observing motion in the eye that is uncovered-if the eye moves temporarily it is crossed, if its motion is nasally it indicates a

divergent strabismus or "wall eyed" condition. Vertical movement of the eye indicates a problem in the elevatory or depressing muscles of the eye. If there is no motion in the uncovered eye it indicates a normal primary position of gaze. In screening for this condition of strabismus, it is of course essential that there is some vision in each eye.

When a definite strabismus is found the patient should be referred to an ophthalmologist. The sooner a program of control is started, the better for the patient. As a rule, glasses are not prescribed prior to the age of one and one half to two years except under extenuating circumstances. Surgery on strabismus is usually best done between the ages of three to seven years.

Congenital cataract is a most difficult condition to explain to parents of children. It may be unilateral or bilateral and in a small percentage of cases is probably the result of rubella in the first trimester of pregnancy. The cataract may be complete, involving the whole lens or involving only a portion. If a concentrated light is shone into the pupil, a light greyish pupillary opacity will indicate cataract. If it is in only one eye, this is no reason to do surgery except for cosmetic reasons. This can safely be done at any time after the age of three years. In bilateral cases with rather complete loss of vision it is best to do surgery early, first in one eye, later in the other. Cataract surgery in the child is fraught with more complications than is cataract surgery in the adult.

A condition which must be differentiated from cataract is the intraocular retino-blastoma, melanosarcoma or the malignant tumor, which if they occur forward in the eye may appear in the pupil. These conditions require radical enucleation. Fortunately these conditions are relatively rare.

Congenital glaucoma or buphthalmos is associated with photophobia, clouding of the

cornea, enlargement of the cornea and elevated intraocular tension. Medical management is unsatisfactory. Surgery is best.

It is of interest to note that the premature infant has two conditions which are prone to cause difficulties with vision. The first of these is retro-lental fibroplasia, which has been rather definitely shown to be related to the use of high concentration charges of oxygen in the incubator. A decade ago this condition was seen quite commonly in the newborn. Its incidence now is diminishing since we have learned to wean the infant from these high concentrations. A second condition is a relatively high incidence of myopia of rather severe amounts. This latter condition has been overshadowed by the publicity given the former condition.

The preceding portion of this paper has been concerned largely with pediatric problems in ophthalmology. In adult life the most frequent ocular complaints are those pertaining to disturbances of vision. The patient beyond the age of forty years who complains of blurred near vision is suffering from a physiological loss of accommodation or presbyopia. This condition is many times encountered in toxic inflammation and in pregnancy. Blurred distant vision but clear near vision means myopia or nearsightedness. If both distant and near vision are blurred it may be due to refractive errors but it may also be the result of cataract, glaucoma, disease of the cornea, vitreous or retina, optic nerves or the higher visual pathways.

Intermittent blurring of vision lasting momentarily or for several hours or days may be the result of vascular changes produced by diabetes mellitus; which disease may effect the lens of the eye or the retina. This symptom of intermittent blurring is also seen in insufficiency of the basilar or carotid artery and is usually of only a few minutes duration.

An instantaneous loss of vision in one eye accompanied by pain or pressure sensation is probably due to occlusion of the central artery of the retina. In older individuals temporal arteritis should be ruled out as a cause of sudden vascular crisis in the eye. In temporal arteritis the patient may complain of transient

diplopia or fleeting blindness several hours prior to the permanent loss of vision. Papilledema may be associated with this condition.

A moderately rapid loss of vision in one eye occurring over a few hours to a day may be due to acute glaucoma with visual disturbance of rainbow halos around lights, cloudiness of the cornea, dilatation of the pupil, and congestive redness of the eye. As the pain increases the patient may well go into nausea and vomiting and a state of physical collapse. It is not uncommon in our general hospitals to find a patient being treated for an abdominal crisis when he actually is suffering from acute congestive glaucoma. This glaucoma picture can be secondary to thrombosis of the central retinal vein with the resulting congestion in the eye.

Acute iritis produces visual disturbances with moderate pain, cloudiness of the aqueous, and redness in the eye. This redness is of the circumcorneal type. Photophobia and miosis are a part of this picture.

Optic neuritis is characterized by swelling of the disc with blurring of the disc margins and a rapid loss of vision. Choking of the disc due to intracranial space occupying lesions may be differentiated from optic neuritis by the fact that loss of vision is a late symptom. Retrobulbar neuritis will cause a rapid loss of vision with a normal appearing optic disc in the early stages. Optic neuritis and retrobulbar neuritis are associated with pain when the eye is rotated and the optic nerve put on stretch.

Loss of vision in both eyes is caused by bilateral intraocular disease, disease of the optic nerves, the chiasm, or the higher pathway into the cerebrum. It is mandatory that such cases receive further ophthalmological and neurological investigation.

In addition to these aforementioned visual disturbances, patients will frequently complain of certain entopic visual disturbances. The patient's description of these disturbances is sufficient that history alone usually suffices for the diagnosis. All of us, or certainly most of us, have observed floating spots in our eyes when looking at the sky, or snow, or at bright walls or ceilings. These may be corpuscular and

round or stringy and like a fine thread. As you try to look at them they float off. These are remnants of fetal circulation and are the result of condensation and aging of the vitreous body. They have no pathologic significance.

Moore's Lightning streaks are seen usually in older adults—past the sixth decade of life. These are sudden, bright lightning-like flashes observed far out in the temporal field of vision. They will be brought on by excessive exertion or shaking the head violently, or moving the eyes rapidly. These are the result of vitreous body shrinkage and are a part of vitreous body degeneration. In this phenomenon there is real danger of retinal detachment occurring. For this reason a thorough ophthalmoscopic examination should be done.

The scintillating scotomata of migraine are familar to all. This occurs during the aura and may assume many forms. It is thought to be produced by constriction of the cerebral vessels. The patient may see a bright spot of light; this expands; he then notices a blurring of a portion of his field of vision—perhaps a part of the printed word blurs on him, or he may notice the entire visual field or any part of it blur. This may be bilateral or unilateral and the bright area begins to pulsate rapidly. This episode lasts a few moments and is followed by the onset of headache. This headache usually affects the side of the head opposite to the side of the visual aura. Many cases will have only the aura with some gastrointestinal disturbance and escape the headache.

Micropsia, the condition in which objects appear smaller and macropsia in which they appear larger usually indicate a problem in accommodation. Metamorphopsia, a condition in which straight lines appear crooked and in which squares and circles appear asymmetrical, usually indicates edema or scarring at or near the macula of the eye, such as in hemorrhage choroiditis, or detachment of the retina. Any condition producing an irregularity of the surface of the retina will cause this condition.

Photophobia indicates albinism, lesion of the cornea or inflammation of the inner eye such as iritis or iridocyclitis. Double vision indicates a serious problem due to paresis or paralysis of one or more of the extraocular muscles. This can result from muscle injury as in direct trauma, but more commonly indicates intracranial disease with involvement of the cranial nerves. Diplopia in one eye indicates a disruption in the refractive media of the eye as a laceration of the cornea, or a cataract formation or vitreous liquefaction and degeneration. Night blindness is due to a loss of function of the red cells of the eye and is indicative of retinal degeneration as in retinitis pigmentosa. It is characterized by loss of vision in subdued light and may be encountered also in severe avitaminosis.

Sharp, stabbing, foreign body sensations in the eye may be the result of recurrent erosions of the corneal epithelium. This will frequently follow the scratching of the eye by a twig or baby's fingernail. Many times the epithelium heals irregularly and is not tightly adherent to the underlying basement membrane. During sleep the eyelids tend to separate and the surface epithelium dries, producing the sensation of a foreign body in the eye. This is particularly noticeable if there is a deficiency of tearing as in keratitis sicca or Sjörgren's disease. Lubrication of the eyes with a mild ointment and the use of artificial tears in the form of methyl cellulose in isotonic solution is the treatment of choice.

Pain in the orbit may be excruciating as in histamine cephalgia which usually causes lacrymation and redness of the eye, stuffiness of the nose and sometimes constriction of the homolateral pupil. This needs to be differentiated from the scalp pain of temporal arteritis, the burning pain of herpes zoster ophthalmicus and the electric shock type pain of trigeminal neuralgia. Intracranial aneurysm may also produce severe cephalgia.

In general, the eye ground serves as a good mirror for the diagnosing of many systemic disorders. Hemorrhages of the retina are seen in direct trauma to the eye. A history of a blow or other external evidence of injury will establish the diagnosis. Certain systemic diseases will be found to produce hemorrhages. Berens clas-

sifies these causes of retinal hemorrhages as follows:

- Retinal inflammation secondary to systemic infection.
- Toxemia associated with variola, dysentery, malaria and Weil's Disease.
- 3. Intraocular venous obstruction.
- Retinopathies of diabetes, arteriosclerosis, hypertension, nephritis and toxemia of pregnancy.
- Disease of the hematopoietic system including anemia polycythemia, leukemia, purpura, hemophilia or lupus erythematosus.

The retinopathy of diabetes varies so much in different individuals that we sometimes are led to wonder if the term diabetes mellitus is a group term covering a group of diseases. As the life expectancy of the diabetic is increased by insulin therapy and dietary control, the incidence of diabetic retinopathy increases. Approximately seventy percent of persons having diabetes for twenty years or more will show evidence of diabetic retinopathy. The early changes seen in the retina in diabetes include the small aneurism of the capillaries, punctate macular hemorrhages, yellow or waxy exudates, cotton-wool patches, multiple thrombosis and recurrent vitreous hemorrhages. The juvenile diabetic usually has more visual disturbances than does the older individual who develops diabetes. Treatment of the diabetic eve is one of the most unsatisfactory phenomena with which the doctor is confronted.

In hypertensive retinopathy there is a disturbance of arteriovenous calibre relationship, the arterioles being attenuated. The nicking of the vein at arteriovenous crossings with dilation of the veins peripherally is familiar to all of us. Flame shaped hemorrhages and the so-called macular star are usually seen. If this hypertensive picture is of an angiospastic type, and if the spasm can be relieved early, the retinal picture may clear considerably and permanent visual loss can be prevented.

In arteriosclerosis there is an alteration of the lumen of the vessel due to narrowing by hyaline or calcium deposits. The light streak of the artery is irregularly thickened and the vessels appear tortuous. Venous nicking at the arteriovenous crossing is present. Many times the arteries will be so occluded as to appear as a silver wire. Frequently the elements of hypertension, and diabetes or glomerulonephritis are superimposed on the basic arteriosclerotic retinopathy.

Toxemia of pregnancy should be followed by watching the eye grounds carefully. Early changes are spasm of the small vessels, papilledema, cotton wool exudates and small radial hemorrhages. Hyaline and lipoid deposits indicate a permanent organic phase is present. The vessels then become sclerotic and retinal detachment is not uncomon. The retinal picture is similar in acute glomerulonephritis.

Senile macular degeneration is a common cause of poor vision in the elderly individual. It is the result of sclerosis of the small vessels in hte macular area. Primarily it affects the choriocapillaries and is characterized by a loss of central vision, but with a relatively good maintenance of peripheral vision. While its onset is probably gradual, it may suddenly be noticed by the patient as he closes one eye at a time. Treatment as in all the arteriosclerotic conditions is rather disappointing.

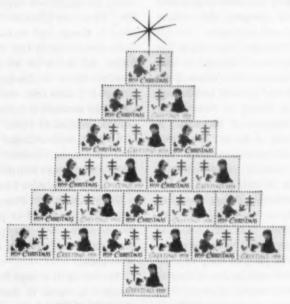
In concluding this paper, I should like to say a few words about the management of trauma to the eye. The first aid rendered the injured eye is frequently the determining factor in the preservation or loss of sight. For chemical burns of the eye it is best to do a thorough irrigation and washing of the eye. The use of so called neutralizing substances is to be abhorred, for many times the substance is used in concentrations too strong so that further damage is done to the already injured eye. Washing with warm water or normal saline is the procedure of choice. When an eye receives a penetrating wound, a pressure dressing should never be applied. If a dressing is to be applied, it should be light. When inspecting the eye for injury, great care should be taken so that only a minimum of pressure may be exerted on the globe. Lesions of the eyelids should be handled in such a way as to preserve the functions

of the eyelid, keeping in mind that the eyelid is a moving part and its function is to provide protection for the globe and to furnish a pathway for the conduction of tears to the nose. Any injury or surgery calling for removal of tissue in the eyelid or adjacent to it calls for a plastic reconstruction with replacement of the lost tissue.

Collagen diseases are seen in the eye and the therapy of these conditions is in general rather unsatisfactory. The ocular manifestations of the lids include erythema and edema. All parts of the eye are similarly affected and in stubborn cases of chronic eye inflammation the collagen diseases must be thought of. Whichever part of the eye is affected will basically have a dysfunction of this part. Fibrinoid degeneration of the connective tissue of the eye, like that of other parts of the body, responds to the ketosteroid therapy in only a relatively small percent of the cases.

In conclusion let me state rather tritely, perhaps, that the function of the eye is to see and in following ocular disease and injury we may borrow the dictum used by the obstetrician:— First—do no harm.

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Clinical Results of

VERONICA M. PENNINGTON, M.D.

Jackson, Mississippi

A brief review of our experience with chlorpromazine (Thorazine®) will be presented as background for our study of prochlorperazine in order to compare the various methods of procedure and evaluation.

In 1954, a few patients were begun on chlorpromazine (Thorazine) therapy; to date over fifteen hundred patients have received the medication and the list of patients hospitalized for several months to twenty or more years, and now at home because of Thorazine, is impressive and satisfying. A number of patients at home have taken chlorpromazine since 1955 with no untoward physical effect but with continued restoration of their normal mental functioning. Chlorpromazine dosage was from one hundred and fifty to one thousand, eight hundred milligrams daily. Side effects were in order of incidence dermatitis, photosensitivity (redness and edema of parts of body exposed to sunlight), weakness and fatigue, aching of arms and legs, tremulousness, dizziness from hypotension, lactation, constipation, altered erotic drive, and one case of jaundice which cleared up with reduced dosage. This patient continues to take Thorazine at home and is doing well mentally and physically after twelve years of hospitalization.1

Patients are selected for neuroleptic drugs by evidence of abnormal mental symptoms as given by their histories, as given by several nurses aides who know them well, and as given by the patient in personal interview with the investigator.

Each cottage has a typed list of the patients on medication, one list for each neuroleptic drug. If the patient is receiving two or more drugs, her name will appear on two or more lists. These are changed daily, weekly or as often as dosage and medications are changed.

An order sheet is kept in the patient's ward folder. All orders for medication, treatments, transfers, leaves of absence are chronologically recorded. I also note side effects when they occur and medication is discontinued or dosage reduced because of them.

Another sheet included in the ward folder of each patient contains his name, cottage, rectal temperatures with dates, menstrual record with dates, medication changes with dates.

Side reactions and changes both mental and physical are reported in progress notes made by interview with the patients, aides who evaluated them before the study began and the investigator.

Another sheet is kept by the attendant. This contains a record of each dose of medicine given, the time and date. This is turned in for inspection and filing in the patient's office folder when completed.

A daily record containing the name of the patient, the medication, the date the medication was given, the amount, the time given, by whom and patient's reaction is kept by the aides. This card is headed by the condition both mental

PROCHLORPERAZINE

and physical at the beginning of treatment, so that his daily reaction can be compared with his condition at the beginning of treatment. Some groups were evaluated by a questionnaire, similar to the one shown on the following page.²

One was filled out before the study was begun and one at the final evaluation. The difference between the two sheets indicates the patient's gains or losses.

A more elaborate evaluating device, used in sixty patients is the I.B.M. rating scale.³ This consists of three cards; the history card gives the patient's name, age, race, sex, marital status, number, education, years hospitalized, mental condition before treatment, length of time of mental illness, menstruation, psychological testing, and treatment. This is a basic card and need never be filled out again in any future psychopharmacotherapy trials.

The second or pre-card, meaning premedication, gives the patient's number diagnosis, age, years hospitalized, mental condition before treatment, length of mental illness, menstruation, weight, blood pressure, rectal temperature, laboratory work, outstanding physical symptoms, previous reaction to drugs, supervision required and self-care, toilet habits, defecation and urination, eating habits, restlessness, verbosity, retardation, aggressivity, affectivity, needed supervision in work and recreation, delusions and their kind, hallucinations and their kind, orientation, confusion, relevance, coherence, psychological testing, previous psychopharmacotherapy with dosage. Most of the

information in these cards can be filled out by an attendant or secretary; only the material under the heading "mental condition," need be filled out by the investigator doing the trial. These include delusions, hallucinations and their kind, orientation and its kind, confusion, relevance, coherence, psychoneurotic reactions, drug reactions or side effects and the evaluation of the patient as poor, fair, good, excellent or normal.

The post-card or post medication card is a duplicate of the pre-card. It can be completed daily, weekly, monthly or simply at the end of the drug trial. When the pre-card findings are subtracted from the post-card findings the improvement or worsening in all of these categories can readily be seen. An international committee can set up the I.B.M. rating scale to meet the needs of all investigators. With the use of this scale, studies of one or one million patients could be synchronized into a single gigantic work by using the same measuring stick, the I.B.M. rating scale.

A prescription for the medication responsible for the patient's improvement and a card with instructions for patients going on a leave of absence are given them when they go home. The instructions make the following statement:

- Take your medicine regularly. Do not miss a single dose.
- Action, as represented by work, is the highest accomplishment. Do plenty of it.
- Have your family doctor check you every two weeks, oftener if you do not feel well.
 All patients going home are given a date for

Cotto	ge:	Date:		
Name	B.P.	Rectal Temp:		
	Code:			
	XXX Always XX Sometimes	X Occasionally O Never		
1. SEI	F CARE:	Hair Teeth Bath Dress Self Nude Neat and Clean		
2. MO	TOR ACTIVITY:	Normal Noisy Restless Meddlesome Fighting Lies on Bed or on Floor		
3. AG	GRESSIVENESS:	Normal Meddlesome Withdrawn Catatonic Resistive		
4. EAT	ING HABITS:	Normal Greedy Messy Requires Feeding		
S. TOI	LET HABITS:	Normal Untidy Smear Feces		
4. SLEI	EP HABITS:	Normal Require Help to Bed Wander about, Restless Wet Bed		
7. SOC	CIAL HABITS:	Normal Participates in Group Activities Does Not Associate with Others		
8. NEE	DED SUPERVISION:	None Open Ward In Work In Recreation		
9. MEN	ITAL CONDITION:	Delusional Hallucinated Disoriented Confused Irrelevant		
). RES1	ORATION:	Complete Greatly Improved Considerably Improved No Response		

a return check-up at six week intervals. Very few make use of this privilege. I carry on a correspondence with many of the patients who have left the hospital on medication and they feel they benefit from this. Some have continued the correspondence for over four years.

Method

Placebo in double-blind technique was utilized in sixty patients in this study and in comparison of action with other neuroleptic drugs in one hundred and twenty patients.

For six weeks, sixty patients received a placebo identical in appearance to the prochlorperazine while the remaining one hundred and twenty patients received the prochlorperazine. Since these were all chronic cases with but little fluctuation in their mental state it was not surprising that little, if any, change could be noted in the psychotic symptoms of those taking placebo. Also none of the placebo group developed side effects. It was soon apparent to the experienced workers which patients were receiving the active medication, the prochlorperazine, since improvement and side reactions appeared in the group of one hundred and twenty receiving the prochlorperazine. After six weeks, the sixty patients receiving placebo were given prochlorperazine and improvement resulted in sixty-five percent of the group on active medication.

When their prochlorperazine was discontinued for three weeks after improvement had begun twenty patients worsened on placebo but again showed improvement when again placed on Compazine.®

Since the action of phrenotropic drug varies with each individual, every patient is his own best control.

Patients who have gone home on a maintainance dose of prochlorperazine and stopped taking their medication usually have returned to the hospital within a month or two, because of psychotic symptoms. I have only two patients who have remained out for any length of time without medication. One was furloughed 7-1-55 and has been off chlorpromazine for a year. The other patient was given a leave of absence

SPECIAL NOTE:

on 7-12-55 and has not been taking her medication for a little over a year. The degree of sustaining correction of the biochemical imbalance by neuroleptic drugs probably varies with the individual as much as the dosage does; so that not only the dosage and kind of neuroleptic but length of its continuance must be regulated to the individual need of the patient.

Time Factor

The length of time necessary for betterment with psychopharmaceuticals varies with the individual. Some improve in a few days, many chronic psychotic patients require two, three, five, nine or more months for return to normal. One of the patients mentioned above required nine months of intensive medication before she could leave the hospital. Had I given up hope for her improvement after three or four months medication, she would not now be doing well in her third year at college. She might still be on the ward for disturbed patients from which she was furloughed. I think it is a great mistake to give small doses for a short period of time and consider the treatment a failure if the patient does not show improvement. A gradual increase in the dosage with a long period of medication will often prove successful where small dosage and a short period of time fail.

Side Reactions

The attendants are well versed in the side reactions of neuroleptic drugs and are instructed to stop all medication at the first sign of a physical change in the patient. When the patient appears ill, drools saliva, complains of weakness or sore throat, becomes retarded or shaky, has a syncopal attack, develops a rash, becomes nauseated, they are told "when in doubt do not give the medication." A typed copy of the above instructions is on each cottage bulletin board so that all three shifts of attendants can see it.

Fine tremors, rigidity and other prodromal signs of Parkinson-like syndrome are demonstrated to them. Because we watch for these early symptoms, we have not had a full blown instance of Parkinson-like syndrome since we had three during our drug trials with reserpine in 1953.

The significance of sore throat with or without an elevation of temperature and requiring a white count immediately is impressed on the attendants, although I have not had a case of agranulocytosis with the use of the phenothiazine derivatives.

Weakness and dizziness were complained of in many patients taking prochlorperazine, particularly during the first week of treatment, later these symptoms disappear even with the same dosage. A few had syncopal attacks due to hypotension but not as many cases of syncope occurred with prochlorperazine as did with chlorpromazine.

A reduction of the gastric secretion and especially that of hydrochloric acid by prochlorperazine, as demonstrated in animal studies, amay account for the feelings of gastric distress during initial medication in many patients.

Spasm of the voluntary muscles of the neck controlling the jaw and head occurred in twocases. These disappeared in twenty-four hours after withdrawal of the drug and did not occur with continuation of reduced dosage.

Pain in the precordial region, radiating up to the shoulder and down the arm was present in four cases and may have been due to the drug induced tachycardia.

There were no complaints of blurred vision and xerostomia were not complained.⁶ The pseudo-catatonic or pre-Parkinsonian-like syndrome appeared in dosage range from thirty to eighty milligrams of prochlorperazine daily, but because of watchfulness, did not progress beyond fine tremors.

Some patients were too drowsy to work during the first seven to fourteen days of treatment with prochlorperazine. This drowsiness wore off sooner than with the use of chlorpromazine.

Results

Because of its piperazine component, a moiety present in such analeptics as Ritalin,[®] Meratran,[®] and others, prochlorperazine does

CLINICAL RESULTS OF PROCHLORPERAZINE IN 180 CHRONIC PSYCHOTIC PATIENTS

COTTAGE AND NO. OF PATIENTS	RESTORED	GREATLY	CONSIDERABLY IMPROVED	NO CHANGE	WORSENED	SIDE REACTIONS
1 = 92	8	15	33	37	0	26 Drooling Saliva—2
2 = 23	4	10	5	4	0	3 Drawing of Neck Muscles—2
3 = 13	0	1	3	8	0	2 Syncope—3
4 = 15	1	5	9	0	0	0 Pseudo-Catatonic- like Syndrome—12
A = 15	1	- 5	9	•	0	0 Gastric Distress—3 Weakness—6
2-3-A = 26	2	- 4	12	8	0	0 Pre-Cordial Pains-3
TOTALS: 180	17	37	66	60	0	31
	9%	20%	36%	33%	0	17%

Number of Patients = 180 females Ages = 2 months to 82 years Years Hospitalized = 2 months to 35 years Length of Study = 3 weeks to 18 months Dosage Range = 40 mg. to 200 mg. daily

not produce the lethargy and somnolence that chlorpromazine frequently does.

Although the antibody response for infectious diseases is supposed to be reduced by phenothiazines and the Rauwolfia alkaloids in animal studies, no proof of this was demonstrated in our human series. Those cottages with the largest percentages of patients receiving phrenotropic drugs have had the fewest and least severe cases of influenza and respiratory infections. This was determined by observation, not statistically.

A combination of chlorpromazine (Thorazine) and prochlorperazine (Compazine) as well as combinations of prochlorpromazine with perphenazine (Trilafon®), triflupromazine (Vesprin®), thiopropazate (Dartal®), appears in many patients to provide greater benefits and fewer side reactions, proving their synergistic action clinically.

The one hundred and eighty patients in this study taking prochlorperazine (Compazine) were in eight female cottages. Most of them had had electroshock treatments; most of them

had received phrenotropic drugs at least for a short period of time, many for two to four years. Most of the group were schizophrenic reaction types, a few patients were suffering from chronic brain syndrome associated with cerebral arteriosclerosis. Schizophrenic reaction, catatonic type was a predominant diagnosis with schizophrenic reaction, paranoid type being second. The age range was from twentynine to eighty-two. Years of hospitalization ranged from two months to thirty five years. Seventeen of this group or nine percent were returned to apparently normal condition with a full remission. Thirty-seven or twenty percent were greatly improved; sixty-six or thirty-six percent were considerably improved; sixty-three percent showed very little change; we feel that with a more prolonged period of medication this last percentage will be decreased considerably. Most of the group have been on prochlorpromazine only two months. The treatment time ranged from three weeks to eighteen months. None of the patients worsened. Thirty-one or seventeen percent showed side

reactions; drooling saliva, two or one percent; syncope, three or two percent; pseudo-catatonic-like syndrome, twelve or six percent; gastric distress, three or two percent; weakness, six or four percent; precordial pain, three or two percent.

Prochlorperazine has been given in tablet, liquid concentrate and spansule forms as well as ampoules for intramuscular and intravenous injection. For acutely disturbed cases the intravenous or intramuscular routes are preferable, also for patients who refuse oral medication. The liquid concentrate is advisable for those patients who secrete their tablets.

Spansules are particularly useful in outpatient clinics and for patients who are working. No difference in results could be noted in the same patient taking tablets and later taking spansules. Motility of the intestines, the pH of the intestinal juices, absorption power of the villae, as well as other factors could effect spansule assimilation, probably more than tablet or liquid concentrate forms. The dosage range of prochlorperazine was from forty to two hundred milligrams daily.

In order to check those patients whom we suspected of not taking their prochlorperazine and also to check the regularity with which the medication was being given by the attendants, we used the sulphuric-acid-ferric chloride test which is quite accurate, even quantitatively.

The average blood pressure of this group taking prochlorperazine was one hundred and thirty-four systolic over seventy-three diastolic. After prochlorperazine therapy the average blood pressure of the group was one hundred and thirty-six systolic and eighty-seven diastolic.

Conclusion

Many more patients developed pseudocatatonic or pre-Parkinsonian symptoms with prochlorperazine than did those taking chlorpromazine, but we had no instance of photosensitivity (redness and edema of body surfaces exposed to sunlight), lactation, breast abscess, jaundice due to prochlorperazine. Since the extrapyramidal symptoms are easily controlled by diminution of dosage or the addition of Cogentin® or Artane® to the regimen, it is thought that the side effects are much less serious than those produced by chlorpromazine.

Smaller dosage is required to produce similar beneficial effects and I believe that when prochlorperazine is given for a longer period of time those showing "no change" in this series will probably be decreased and improvement will be augmented in those showing "considerably improved" and "greatly improved," since this was my experience with Thorazine.

FOOTNOTE: Since this study was concluded, many of the patients continued their prochlorperazine, changing their status of "improved" to "complete remission" in several patients. Several more who showed "no change" after two months of prochlorperazine therapy were evaluated as "considerably improved" after this study was completed, proving that the "time factor" in phrenotropic medication is important.

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There have been quite a number of articles in medical journals about civil defense. All have dealt with the doctor's task in caring for the survivors of a hydrogen bomb blast, if he himself is fortunate enough to be a survivor. This paper will deal with a different aspect of the problem—how the doctor, or indeed any other person, can increase his chances of becoming a survivor.

A complete coverage of this topic would require a book. Hence, only the high points can be covered in this article, and much of the evidence for certain steps will have to be omitted.

First, it is important to assess the nature of the threat. The most reasonable assumption is that hydrogen bombs in the megaton range will be used. It is already known that 5 megaton bombs can be carried by missiles and planes, and probably 20 megaton bombs can also be delivered. Twenty megatons represents the upper limit of practicality. As the bombs increase beyond this size, their destructive power is wasted upwards, away from the earth, and it therefore seems realistic to base our planning on 20 megaton bombs. Also, it is wise to assume that an enemy would use a ground burst since it is the most deadly type of hydrogen bomb blast.

These bombs can kill in the following ways:

- Initial Nuclear Radiation from the Fireball. Lethal Area—20 square miles (2.5 mile radius).
- Initial Heat Radiation from the Fireball.
 Lethal Area—up to 450 square miles (12 mile radius).
- Blast Effect of the Explosion.

Lethal Area—315 square miles (10 mile radius).

• Flying Missiles Secondary to Blast Effect.

Lethal Area—315 square miles (10 mile radius).

• Radiation from Fallout.

Lethal area—approximately 15,000 square miles depending on wind velocity (140 mile range).

These effects overlap, of course. Note that the greatest danger comes from the fallout radiation. If 1,000 persons were evenly distributed over the 15,000 square miles, and the bomb landed in the center, 970 people would die of fallout radiation, and only 30 would die of all the other effects. Put another way, if we can protect against fallout, we can save about 97 out of 100 people who would otherwise die in a hydrogen bomb attack. In addition, an adequate national shelter program, by reducing our vulnerability, would lessen the danger of a surprise attack.

Two methods of protection against the bombs have been considered. The first was evacuation of all large cities. It was assumed that people evacuated at least 50 miles from a large city would be reasonably safe. This was true in the days when kiloton bombs were the greatest menace. However, with megaton hydrogen bombs, the picture is completely altered. The range of lethal fallout from a ground burst of a 20 megaton bomb is at least 140 miles. The lethal range is so great that less than 250 bombs could make the entire United States a lethal area for persons not in adequate shelters. A car offers practically no shelter from fallout. Unless evacuees can be taken to shelters, they will die of fallout radi-

⁻SURVIVAL

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in a Thermonuclear War

ation—and there are no shelters. Indeed, since the ordinary basement offers a reasonable amount of protection from fallout radiation, it will probably be safer than the open road. It is not clear why so many local civil defense groups still plan on evacuation. The Congressional committee³ investigating civil defense has pointed out the futility of evacuation, even if warning time were sufficient.

The only adequate defense against a hydrogen bomb is a good shelter. Shelters may be designed to attenuate fallout radiation only, or they may also be designed to resist the blast effects. Adequate fallout protection is most important, and blast protection may be considered a fringe benefit.

It is vital to realize that a fallout shelter is a good defense measure, even if there is no warning whatever of an attack. To be sure, if a hydrogen bomb exploded without warning, almost all persons within 10 miles would die. However, persons outside the 10 mile radius will have adequate time to go to a shelter. The explosion of the bomb itself will be a warning of impending fallout. The explosion cannot be mistaken for anything else in human experience. At a distance of 100 miles, the sky will become ten times brighter than it is at noon on the brightest summer day, and the extra illumination will last almost one minute, so it can easily be distinguished from lightning. After the bomb flash is seen, the time before beginning of most fallout will vary from 30 minutes to over 6 hours, depending on the distance from the center, and the speed of the

winds. Thus, the time to get into a fallout shelter will be at least 30 minutes, and perhaps longer.

Accordingly, the intercontinental ballistic missile does not render shelters obsolete; it makes them more important.

Shelters are important for everyone. Presumably, an enemy would aim at our large cities. However, no missile is ever perfectly accurate, and a certain margin of error can be anticipated. Add to this the lethal range of fallout from a single bomb, and it follows that anyone within a minimum of 140 miles of a target area should have protection. The United States Government lists 315 target areas in the continental United States, including at least one in each state. There are very few who live more than 140 miles from any large city.

For protection against fallout radiation, it is necessary to keep large masses of matter interposed as a shield between oneself and the radiation source. Fallout gamma rays are more penetrating than x-rays. For adequate protection, the shield must be massive and should weigh about 300 pounds for every square foot of wall and ceiling. Practically, only concrete or packed earth are suitable, so an adequate shield would be either 24-inch thick concrete or 36 inches of packed earth. (For protection against the higher energy gamma rays and neutrons from the fireball, these figures should be increased 60 percent. However, the direct fireball radiation is lethal for a small area only.)

It is a common error to think that an adequate shelter can be thrown together in a few hours if an international crisis occurs. It can be seen from the facts above that a reasonable shelter involves so much earth or concrete that it cannot be constructed in a short time. There are several government publications describing shelters for the family.2, 2, 4, 7, 8 Those which have been illustrated in the newspapers are made of reinforced concrete. However, reinforced concrete shelters are extremely expensive, take a long time to build, are hard to build properly, are unable to resist blast well, and are quite inefficient in terms of ventilation. They are, however, relatively comfortable.

Another type of shelter which has received less attention is a corrugated steel pipe buried under 3 to 6 feet of earth. This type of shelter is much cheaper, costing much less than a garage. It is easily installed, and resists blast overpressures up to 100 pounds per square inch (14,400 pounds per square foot). It is also much easier to ventilate, since dilution of fresh air by stale air is minimized. However, it is less comfortable. This type of shelter is becoming more popular. It is the basis of several shelters designed for Navy personnel.

The diameters of corrugated, galvanized steel pipe suitable for family shelters are 4, 41/2, 5 and 6 feet. For reasons which we haven't the space to discuss, the best choice seems to be the 5 foot diameter pipe. For a family of five adults, a length of 16 to 18 feet is needed. Costs for the pipe alone range from \$280 to \$425 depending on whether 12, 10 or 8 gauge steel is desired. It can be ordered from Armco Drainage & Metal Products, Inc., Middletown, Ohio; Wheeling Corrugating Co., Wheeling, West Virginia, or U.S. Steel Co., 525 William Penn Place, Pittsburgh 30, Pennsylvania. It is advisable to order also corrugated steel bulkheads, to be bolted to the open ends of the pipe. In one or both of these bulkheads, a small door, about 21/2 x 21/2 feet should be cut.

It will be noted that a 5 foot diameter pipe is not particularly comfortable. It provides about 80 cubic feet of space per person. This, however, is much more than is provided in a foxhole, a tank, a military plane, or even in the average sedan. A 5 foot pipe can readily be tolerated for a few weeks, especially when life itself is at stake. Adults can stretch lying down.

The entrance must contain at least two right angle turns, since there is some scatter of gamma rays around corners. It is advisable to have two steel doors, one over the entrance opening to the outside, and one separating the entrance corridor from the shelter proper. The entrance corridor can be made of 3 foot diameter corrugated steel pipe.

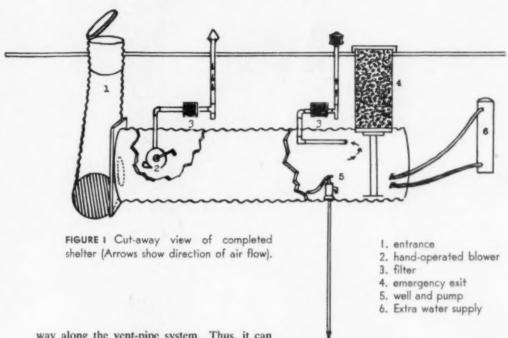
The ventilation system must be designed and built carefully to avoid inhalation of radioactive particles. The essentials of a safe ventilation system include a hand-operated blower, an effective filter, and a series of steel pipes.

In general, one should calculate that approximately 5 cubic feet per minute of fresh air per person will be needed. As a safety factor, it is useful to be prepared to supply 10 cubic feet per person.

An excellent choice for a hand-operated blower is the Model 60B made by Champion Blower and Forge Co., of Lancaster, Pennsylvania. This model has a capacity of 55 C.F.M., and costs approximately \$32. It should be attached to the intake pipes by means of its central inlet collar. Thus, it acts as a suction device, drawing fresh air into the shelter. This tends to create a slight positive pressure within the shelter, minimizing the drifting of radioactive particles into the shelter through small unsealed cracks around doors.

The filter must be able to screen out very small particles. There are two basic types of filter. One fits over the end of the intake pipe above ground. This type is cheaper, and easy to replace. However, it weakens the whole ventilation system, since it exposes a relatively large area to blast effects. Those who wish to use such a filter can obtain one from the Fram Corporation, Providence 16, Rhode Island, for \$15.36.

Another type of filter can be inserted mid-



way along the vent-pipe system. Thus, it can be buried underground, reasonably safe from the blast. These filters are more expensive, and are not easily replaced. However, replacement will probably never be necessary, and these filters provide 99.97% protection. There are several choices. The Model No. 6C62a-N₂N₂, size B, made by Flanders Filters, Inc., P. O. Box 718, Riverhead, New York, costs \$37 in a complete metal housing, and has a capacity of 68 C.F.M. The Cambridge Filter Co., P. O. Box 1255, Syracuse, New York, makes two suitable ones each with 50 C.F.M. capacity. The model 1A-50 with 3-inch inlet and outlet pipes in a 34-inch plywood frame costs \$34. The model 1F-50 in a complete metal housing with 3-inch pipes costs \$60. Any of these are suitable. These filters should be buried at least 2 feet deep, and at least 3 feet from the shelter. The pipes between the shelter and filter should make a right angle turn to prevent gamma rays from the material trapped in the filter from reaching the shelter in large amounts (Figure 2). It will be helpful to insert a "T" joint between the distal end of the filter and the vent pipe rising above grade (Figure 3). The bottom of the "T" is loosely packed with gravel. This precaution will mini-

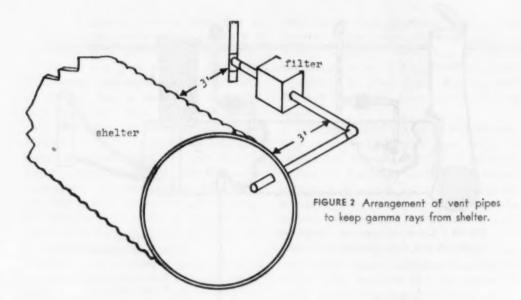
mize water leakage into the filter, and may also reduce any blast effect.

The pipes in the ventilating system should be 3-inch steel vent pipes and adjustable elbows obtainable from Montgomery Ward and local sheet metal shops. They are inserted into the sleeve of the preceeding pipe and secured with two or three sheet metal screws.

There must be separate intake and output vent pipes. The arrangement within the shelter should be such that each vent pipe opens near an opposite end of the shelter, directed distally. This will increase ventilation efficiency greatly.

It seems unlikely that poison gas will be used, because it is so inefficient compared to hydrogen bombs. However, anyone who wishes protection from poison gas too can obtain it at relatively low cost. For details, write the Barnebey-Cheney Co., Cassady at Eighth, Columbus 19, Ohio.

An emergency exit can be incorporated if desired. A good one is a 36-inch diameter pipe, filled with loose sand, and covered at both ends.



When it is to be used, the jack under the lower door is removed, allowing the sand to spill into the main shelter, and providing an opening to the outside (Figure 4).

The entire shelter should be assembled as a unit, and then lowered into the excavation. A minimum of 3 feet of packed earth should cover it. It would be better to have a 5 to 6 feet earth cover. Excavation can be done by an excavating contractor at a total cost of \$100 to \$200, depending on locality and terrain.

Always check ground water levels first. The floor of the shelter should be at least 2 feet above the water table. If the water table is high, earth can be mounded over the shelter.

It may prove helpful to put a layer of .004 inch polyethylene sheeting a few feet over the shelter, about 1 foot below the final grade level. This will prevent rapid seepage of radioactive particles toward the shelter if heavy rain follows the fallout. The material can be purchased from Montgomery Ward at about \$12 for a sheet 20 x 30 feet.

Sanitation can be provided by purchasing from Sears Roebuck their chemical toilet 42GM6510 for \$27, or 42GT6505K for \$15.

The shelter should have an outside aerial for a transistor radio, a supply of flashlights and batteries, extra clothing, especially rubbers, blankets, books, soap, utensils, chelating detergent (Radiacwash®), polyethylene sheets (about 300 square feet), medical supplies, water and food. These two latter items require further consideration.

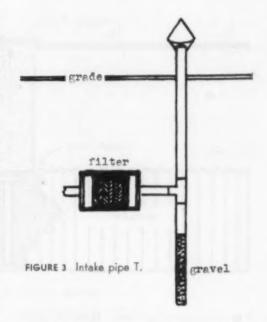
Water supply should be adequate for at least six weeks. After that time, there will probably be pure water for drinking, made by makeshift stills. Boiling, of course, is useless in the presence of radioactive contamination. A daily water ration of two quarts per person is reasonable. Much of this can be in the form of canned fruit juices, purchased by the case. Auxiliary water storage outside the shelter can be arranged through use of old, hot-water storage tanks. These tanks are buried near the shelter, with two plastic hoses leading into the shelter. Opening the nozzle on the hoses will then allow water to flow into the shelter.

The best way to solve the water storage problem would be by incorporating a small pipe-well and hand-pump in the shelter (Figure 1). This will work only if the water table is within 20 feet of the shelter floor. If this is the case, pure water in large amounts will be available. The radioactivity in ground water more than 10 feet below the surface would

probably be negligible. Pipes, well-points, and pump can be purchased from Montgomery Ward or Sears Roebuck. If the stratum is sand, they can be installed without hammering by using a jet-stream from an ordinary garden hose advancing about 2 inches in front of the well-point.

Food storage is a more serious problem. The recommendation of the Office of Civil Defense Mobilization is that food be stored for a two week period. This may be completely inadequate. Apparently, it is based on the obsolete concept that an enemy will strike a few targets in the United States, and within two weeks, food can be brought in from other areas. Unfortunately, with hydrogen bombs, an enemy can readily blanket the entire country with radioactive fallout. Almost all domestic animals will be killed. Farmers will not be able to work their fields, so fresh foods will vanish entirely. We will have to rely on stored foods until farmers are able to plant and harvest a completely new crop—a matter of six months to a year. Our supply of canned foods is limited. The only practical source of large amounts of food is our huge grain surplus. Unfortunately, this surplus is all stored above ground. If a hydrogen bomb attack takes place, some of our surplus will be destroyed by blast and fire. The remainder will probably be badly contaminated by radioactive fallout. It would take at least six months before food thus contaminated with alpha and beta emitters could be eaten with any degree of safety.

What, then, will happen to those survivors of the initial attack who only have a two weeks' supply of stored food? Unfortunately, many may starve. It appears prudent, therefore, to store at least a six months' supply of food per person in a safe place—i.e. a bomb shelter. This may at first glance seem completely unreasonable in terms of the foods usually purchased at the supermarket. However, it is quite practical if concentrated, high-calorie foods are stored. There are many foods which contain over 40,000 calories per cubic foot, and corn oil can go as high as 200,000 calories per cubic foot in gallon containers. A six months sup-



ply of food per person can be stored in 7½ cubic feet, and will cost about \$73.00 in a supermarket, if wisely selected. Important items are sugar, oil, flour, corn meal, canned meats and fish, peanut butter and sweetened condensed milk. All these foods can be eaten raw, even flour, which only loses about 30% of its caloric value if unbaked. Enough vitamin C should be stored to last each person one and one-half to two years since stored grain is deficient in this nutrient. The vitamin C now made by first-rate pharmaceutical companies will retain its potency for an even longer period.

In advising that a six months supply of food be stored in the shelter, there is no intent to imply that anyone will have to stay in the shelter that long. Indeed, most people can leave the shelter within one to two weeks after an attack. However, the extra food will be needed for survival until our agriculture can recuperate.

A suitable radiation detection meter will also be needed. The ordinary Geiger counter would be virtually useless in a post-attack situation. The Geiger counter registers radioactivity in the *milliroentgen* range. Most have an upper limit of 3 milliroentgens; a few go as high as

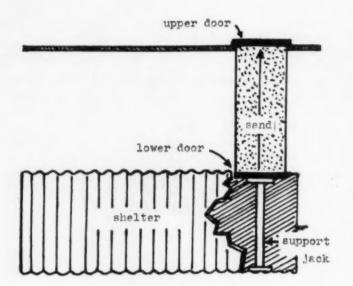


FIGURE 4 An emergency exit.

50 milliroentgens per hour. However, fallout after an attack will involve levels of radio-activity in the range of 1 to 1,000 roentgens per hour, or occasionally even more. For practical purposes, one can settle for a radiation counter with a range up to 50 roentgens per hour, since intensities above this level will be very short-lived. A good counter is the CDV-710 manufactured by the Victoreen Instrument Co., 5806 Hough Avenue, Cleveland, Ohio. It costs

about \$70, and there may be delays in delivery.

It is not clear why there isn't an adequate national shelter program in this country. Sweden and Russia are apparently far ahead of the United States in building shelters to protect their citizens. It is hoped that physicians will interest themselves in this problem, and will provide the leadership needed to save millions of lives.

Summary

Adequate fallout shelters give excellent protection against hydrogen bomb attacks, and should be built by each family. The most suitable shelter appears to be a corrugated, galvanized steel pipe, five feet in diameter, and about sixteen to eighteen feet long, buried under three to five feet of packed earth. Essential features include: a carefully designed entrance, provisions for a supply of filtered fresh air, sanitary facilities, food and water storage, a radiation detector of adequate capacity and other listed items. Names and addresses of the manufacturers of important items are given. Greater interest of physicians in the problems of radioactive fallout is of pressing importance.

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14 Albin Road



THE CLINICAL VALUE OF RENAL BIOPSY

"Aspiration renal biopsy was performed successfully on 51 patients with a wide range of renal diseases.

Certain difficulties in technique are discussed, but in general the method is not difficult to perform, and in the present series 53 out of 59 attempts were successful.

Complications following renal biopsy were uncommon. One patient developed necrotizing papillitis and required nephrectomy. In two cases there appeared to be aggravation of a preexisting infection. The relationship between biopsy and these complications is not clear.

The clinical diagnosis was confirmed in 22 cases, compatible with the histological results in 10 cases and altered in 13 cases after biopsy, and in six neither the clinical nor the biopsy features were sufficient characteristics to be definite.

Renal biopsy may be of value in the management of patients with the nephrotic syndrome, hypertension, and miscellaneous renal diseases. An etiological diagnosis may be provided and the severity of the lesion assessed. Information of value in prognosis and therapy may be obtained.

It is suggested that renal biopsy has a definite but limited value in clinical practice. It is no substitute for the more usual diagnostic procedures and techniques, and must be considered in the light of these methods. It is not a short cut in the diagnosis of renal diseases. Problems arise in sampling and pathological interpretation."

D. J. DELLER, V. J. McGOVERN and RALPH READER The Med. J. of Australia (1959) Vol. 1, No. 15, P. 485

Life cycle of the fibrous cortical defect as depicted by multiple tibial lesions in the same patient

Fibrous | Cortical Defect

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he fibrous cortical defect is one of the most common bone lesions. Only by knowledge of its life cycle can a clear understanding of its biology be obtained. In this way, helpful differentiation from other more serious bone diseases, such as the osteoidosteoma, the intracortical bone abscess, and the giant-cell tumor, can be made. This article will attempt to delineate clearly with the visual aid of appropriate roentgenograms the various evolutionary stages in the life cycle of this benign cortical defect.

Introductory Comments

The etiology of this cortical disturbance has not as yet been determined. It is a common, usually asymptomatic, bone condition visualized most frequently as cyst-like pouches in the long tubular bones of pre-school age children. The most common location of this disorder is in the femur adjacent to the epiphyseal plate; its next most frequent site is in the tibial shafts in corresponding areas adjoining the epiphyses. If the defect becomes quiescent, it may appear at a somewhat greater distance from the cartilaginous plate as the bone continues to grow in length.

Interestingly enough, these foci may originate in multiple sites, appearing bilaterally in corresponding areas of the ipsilateral limb, often in a similar symmetrical position.

Frequently these benign fibrous growths undergo spontaneous retrogression after several years, persisting indefinitely after modification by ossification, the latter obliterating the fibrous radio-lucent cavities and cystic caverns.

Rarely, if the lesion possesses further growth potential, it may become transformed into a truly more tumorous condition and invade the medullary spongiosa cavity by focal erosion. When this happens, the defect converts to another entity classified by Jaffe and Lichtenstein1 as the non-osteogenic fibroma of bone. Actually Jaffe prefers the designation of nonossifying fibroma of bone as the prominent cell remains the fibroblast and never changes to an osteoblastic bone-forming cell.

That these lesions are variants of the same basic pattern has been described clearly by the aforementioned authors and other investigators, the histopathological findings remaining similar.

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The Histopathological Characteristics

It has been only eighteen years since Sontag and Pyle² originally described this entity in 1941.

That this lesion has masqueraded under other pseudonyms and disguises must certainly be true considering its high incidence.

The pathology of the fibrous cortical defect was clarified further by Jaffe and Hatcher,³ who noted erosion of the compact cortical bone by the proliferating invasive periosteal fibrous tissue. Caffey's⁴ extensive study of this disorder in 1955, described fully its biology through a comprehensive critical analysis.

Grossly, on section, the tumor's usual appearance is one of cyst-like cavities filled with yellowish-brown debris composed essentially of fibrous connective tissue strands of varying densities. The cysts are actually compartments of a loculated fibrous mesh surrounded by neighboring cortical bone, which may be thinned or thickened. Often this band of cortical bone undergoes increased osteoblastic activity and further ossification into and around the defects occurs.

Histologically, the pattern is one of "whorled bundles of spindle-shaped connective-tissue cells. However, the cellularity of the stroma varies from one lesion to another and from one focus to another within the same lesion.

. . . Irregularly dispersed among the stromal cells are small, often elongated multinuclear giant cells. . . . In a distinctly yellowish lesion or focus, one finds large and small nests of foam cells. . . . The absence of bone formation within the lesional stromal tissue is consistent and striking. . . . Such bone formation represents a response of the neighboring tissue to the lesion, and not a feature of the lesion itself."

Jaffe's excellent description cannot be improved upon and is quoted in part from the original text. He also indicates that the sporadic appearance of giant cells may lead to a mis-diagnosis of giant-cell tumor just as the occurrence of cholesterol-bearing foam cells ("lipophages") might misrepresent the tumor as a xanthogranuloma or eosinophilic granuloma.

The Clinical Course

This benign cortical tumor is usually found incidentally in x-rays which have been taken in the course of investigation for fractures. Most often the lesion is discovered accidentally in roentgenograms of the long tubular bones of children and adolescents by physicians evaluating minor or major traumatic episodes, such as the bruising of a knee or the spraining of an ankle. Very rarely it may be uncovered in the long bones of the upper extremity.

Such asymptomatic lesions so frequently encountered in the above fashion, rarely require any treatment except possibly periodic follow-up examinations, as these defects often disappear spontaneously by themselves. In those instances in which the lesion becomes extreme, symptomatic, or transforms itself into the non-ossifying fibroma of bone, surgical or orthopedic intervention by curettage or resection may have to be carried out.

It should be noted that these fibrous cortical defects have been estimated to occur in over thirty percent of the childhood population at some time during the early growth years, most commonly in the four-to-eight year period.

Case Record

J. W., a 24-year old Negro, male seaman, has been followed by the Medical Department at the U. S. Naval Station Dispensary for the past year for orthopedic evaluation of three fibrous cortical defects present bilaterally in his lower extremities for many years.

The defect noted in the left lower tibial shaft was discovered approximately ten years ago incidental to an x-ray for a sprained left ankle. Upon interrogation no symptoms referable to the lesion could be elicited from the patient.

Follow-up x-rays were recommended, but as the focus remained quiescent, only one other film was taken in the intervening years. This roentgenogram, taken several years after the initial film, demonstrated the presence of a new defect, also dormant, in the upper metaphysial end of the left tibia. Films of the ipsilateral



FIGURE 1. Roentgenograms (lateral projections of both lower extremities) demonstrating the fibrous cortical defects in the distal metaphysial ends of both tibiae. The proximal cortical defect of the left tibia is not demarcated clearly in this film. A scale has been included for ascertaining approximate sizes.



FIGURE 2. Roentgenograms (frontal, lateral, and oblique views of the right tibia and fibula) demonstrating the fibrous cortical defect in three separate projections. Note the lead markers. Here the cyst-like cavernous pouch of radiolucent fibrous connective tissue in the lesion in the distal tibial shaft is surrounded by a dense ovalshaped peripheral band of osteosclerotic bone. The central portion may even be sub-divided into smaller loculated compartments of fibrotic bundles, an important characteristic of this lesion. That the tibial shaft is minimally expanded by the tumor represents another distinguishing feature of this defect. Characteristically the lesion aligns itself parallel to the shaft of the long bone as it has in this instance.

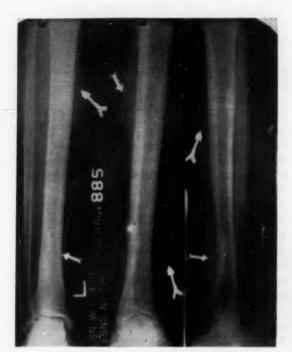
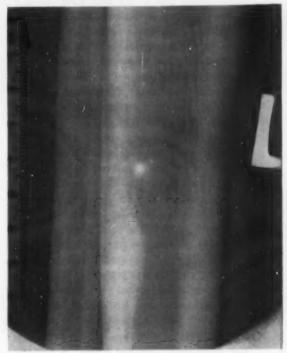


FIGURE 3. Roentgenograms (frontal, lateral, and oblique views of the left tibia and fibula) demonstrating the two metaphysial fibrous defects of the left tibia in three separate projections and appropriately indicated with lead arrows. Note that the distal lesion has undergone almost complete ossification and is entirely radiopaque. Again the shaft of the tibia fails to demonstration any expansion. Note that the upper focus is just visible as a residual sub-cortical ossified protuberance into the medullary cavity. This may very well represent the earliest defect from a chronological standpoint, which over the years has undergone practically complete retrogression spontaneously. Even now the reconstituted compact bone approaches closely the structural architecture of normal cortex in its general appearance and contour.

FIGURE 4. Roentgenogram (cone-down spot film of the upper left tibial defect) showing the magnified lesional topography. This is a very dramatic and unusual view demonstrating normal cortical bone demarcated from the overlying periosteal new-bone formation and sub-cortical radiopaque ossified defect by thin symmetrical radiolucent lines of equal width.



extremity at that time apparently revealed no similar condition.

Even after his enlistment in the U. S. Navy April 20, 1955, no further difficulty was encountered by him. He continued to remain completely asymptomatic.

In the early months of 1957 a routine chest film was reported as demonstrating bilateral hilar adenopathy, and he was ordered hospitalized for further investigation. During the interval of time from February 25, 1957 to May 15, 1958 the patient was hospitalized twice for diagnostic studies of the adenopathy. On April 1, 1957 a paratracheal lymph node biopsy performed at the U. S. Naval Hospital, Portsmouth, Virginia, was reported as consistent with Boeck's Sarcoid. A medical board survey found him fit for duty since he had been in continually good health throughout his life.

During his second admission in May 1958, x-rays of both lower legs were taken. A third new defect was discovered at that time in the lower right tibial shaft. Orthopedic consultation recommended yearly films of the tibiae for purposes of evaluation.

Physical examination at the time of this writing (April 1959) revealed a well-developed. well-nourished Negro male appearing in good physical health. He had no symptoms referable to his legs. The vital signs were normal. A careful examination, especially of the chest and lower extremities, was performed with essentially negative results except for a fourinch, well-healed, non-tender, surgical scar over the right supraclavicular fossa and a minute amount of residual pigment on the posterior surface of the left cornea, consistent with an old inactive granulomatous uveitis of the type seen in sarcoidosis. There were several small shotty inguinal nodes. A chest xray was negative.

The Roentgenographic Findings

The following comments using the roentgenograms as visual aids will demonstrate clearly three of the main evolutionary variants in the life cycle of the fibrous cortical defect. These stages are depicted by three separate and distinct foci on the tibial shafts.

The most typical roentgenographic pattern is visualized clearly in the distal metaphysial cortex of the right tibia (see Figures 1 and 2). The lesion appears cyst-like and cavernous in nature and represents a central nidus of radio-lucent fibrous connective tissue. This pouch may well contain more than one bundle of fibrotic mesh; it could be loculated into compartments as is often seen. This area is bordered and surrounded by an osteosclerotic peripheral band of sclerotic cortical bone, which is attempting to suppress circumferentially the growth of the tumor.

From a chronological standpoint this particular site represents clinically and radiographically the earliest, most immature, form of the disease. Often the defect aligns itself parallel to the shaft and long axis of the bone, as it has done in this case, but rarely do any of them measure over several centimeters.

The next stage is typified by the site at the distal metaphysial cortex of the left fibula (see Figures 1 and 3). Here suppression and obliteration of the abnormal focus has been carried out by deposition of new bone into and around the tumor by increased osteoblastic activity; in effect, a stony boundary has been deposited around the lesion.

Again this diffuse generalized ossification is visualized as abnormally radiopaque sclerotization. Only an obliterated defect remains. Even the most careful scrutiny for any evidence of radiolucent fibrous tissue in this location would be futile. This indeed represents the static form of the disease so often seen in young adults.

The final reparative stage, and the oldest from the standpoint of time and evolution, is depicted at the upper proximal metaphysial and of the left tibial shaft. (See Figures 3 and 4, the latter a cone-down spot film. Figure 1 does not clearly demonstrate this focus.) Typically, the lesion appears at a greater distance from the growing end of the long bone (the epiphysis) often in the diaphysis proper. This is suggested to some extent in these films.

Now only minimal residual sub-cortical eburnation remains. This has been due to the spontaneous regression and partial disappearance of the lesion.

Structural reconstitution has taken place by the mobilization of the bony forces and nearnormal cortical architecture persists after the sclerotic changes were induced by the osteocytic processes.

In retrospect, might possibly the earnest films of this patient's ankle taken some ten years prior to these x-rays have been too low to visualize the higher tibial defect, thus missing what radiographically appears to be the oldest lesion? One can only hypothesize on this question.

Summary

A very unusual case report is documented wherein the tibiae of one patient demonstrate multiple fibrous cortical defects in various evolutionary stages of the tumor's life cycle. Appropriate roentgenograms are included to illustrate these variants.

Several introductory comments are made, and the histopathology, the clinical course of the disease, and treatment are discussed briefly. A case record is used to illustrate numerous characteristics of this cortical disturbance. Several references from the literature are included.

The biology of the lesion is stressed from a

radiographic standpoint. It is essential not to confuse this common benign fibrous defect with other more serious bone diseases, which may very well have a malignant potential. Indeed, when any of the above x-ray findings are observed, the physician may rest assured and confident that he is dealing with some variant form of the benign fibrous cortical defect. Of course, biopsy permits a definitive diagnosis and should be employed whenever there is the slightest need for confirmation by correlating clinical, x-ray, and laboratory data with the biopsy report.

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A New Antiallergic Medication

ncreasing recognition of the allergic character of many conditions of the upper respiratory tract, particularly allergic reactions to bacteria, makes application of the principles of allergy essential in otorhinolaryngology. Unfortunately, the allergic etiology of many of these conditions is not immediately apparent. Allergic rhinitis and sinusitis are still frequently diagnosed and treated as "head colds." In young children rhinitis may be persistently dealt with as an infection despite the failure of antibiotics and other therapy to improve symptoms.1 Probably the most indiscriminate use of antibiotics can be seen in the treatment of chronic sinusitis, where infection can often be controlled by removing allergic causes and by correcting improper nasal ventilation.2

Failure to diagnose correctly and treat allergic responses, particularly sinusitis and rhinitis, can lead to irreversible changes in the mucosa. Polyp formation commonly results from allergic edema; some patients undergo polypectomies at frequent intervals.

Patients with upper respiratory conditions, therefore, should be studied for an allergic history, allergic responses, and associated pathological changes.

Obviously, such seasonal reactions as hay fever present a characteristic allergic history and symptoms and a typical mucosal picture. However, food, dust, pollen and bacterial sensitivities, as well as other allergic stimuli (physical and psychological) are less readily discerned. Detailed case histories, laboratory and x-ray diagnosis, smear of secretions, and skin tests may be necessary to estab-

lish the presence of allergic phenomena and responses.

When an allergic etiology is established or suspected, therapy should be based on an attempt to stabilize the condition. The first step is to remove any existing nasal pathology. The second is to try to control symptoms with antihistamines. At the same time, where the offending allergen has been discovered, contact should be avoided. Recourse to desensitization should then be necessary only if sensitivities are multiple or severe.

Unquestionably the use of drugs has provided significant symptomatic control of many allergic reactions and has greatly simplified therapy. However, the antihistamines are not routinely effective. They are of proven benefit in hay fever and urticaria, but their use in asthma and contact dermatitis is limited.

The inconsistency of effect is probably due to the fact that all allergic reactions are not simply caused by the release of histamine. Histamine may not be involved at all in the antigen-antibody reaction. In fact, Stoughton³ has stated that histamine is released only in the immediate type antigen-antibody reaction and not in the delayed type. In other allergic responses, the allergen itself may not necessarily be present. It is known that intense allergic responses can be psychogenic. Even a drawing of a given allergen has evoked an attack of asthma.⁴

In addition to histamine, recent evidence has shown that serotonin and certain peptides and enzymes may be involved in the allergic reaction.⁵ Logan⁶ lists histamine, heparin, sero-

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The clinical evaluation of a new antiallergic medication in otorhinolaryngology.

tonin, and acetylcholine as agents released by the immediate antigen-antibody reaction. Page,⁷ in a review of the literature, presents data indicating that serotonin in animals is a more potent edema-producing agent than histamine, is a powerful bronchoconstrictor, and is probably a primary factor in allergic asthma.

Therefore, it should not be accepted that a drug with antihistamine action is a specific for allergy. For example, where there is a psychogenic origin sedation should be provided. Sedation as a side effect is the rule rather than the exception in effective antihistamine therapy. However, although this sedation is desirable in some patients, it is unnecessary in others and should not be an integral part of therapy. Where sedation is both uncontrolled and unwanted, it can be harmful in overall treatment. These many and complex factors involved in allergic phenomena and responses all point to the need for flexible and comprehensive therapy.

Recently a new drug,* has interested investigators because of marked antihistaminic effects with relatively no sedative or other side reactions. In addition, antiserotonin and spasmolytic properties have been demonstrated. In the laboratory it was outstanding in its ability

to inhibit the effects of histamine, histamineinduced asthma, allergic asthma (egg-white sensitivity) and serotonin-induced asthma.⁰

An antiserotonin effect was also demonstrated in another laboratory study in which isothipendyl and other antihistamines were tested for their ability to prevent both the antidiuresis and paw edema produced by dextran. All the antihistamines studied prevented the antidiuretic effect which is thought to be caused by the release of histamine. However, only isothipendyl and chlorpromazine prevented paw edema, which is thought due to the release of both serotonin and histamine from the mast cells of the skin.9

The literature reports that isothipendyl was beneficial to over 90 percent of 1,200 patients with less than a 1 percent incidence of side effects. 10, 11, 12 An unusually high percentage of efficacy in bronchial asthma was attributed to antiserotonin and anticholinergic as well as antihistaminic effects. 10

It was, therefore, decided to study this compound in patients seen in the private practice of otorhinolaryngology.

Clientele

One hundred and nineteen patients were studied. Ages ranged from 4 to 70 years. Seventy-two patients had sinusitis, 24 rhinitis, 12 sinusitis and rhinitis, 5 rhinitis and hay fever, 2 rhinitis, sinusitis and hay fever, 3 hay fever, and 1 rose fever. Twenty-three patients had associated conditions such as external otitis media, Menière's syndrome, asthma, bronchitis, eczema and urticaria.

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^{*}Isothipendyl hydrochloride (Theruhistin®) Ayerst Laboratories, New York, New York

The large majority of these conditions were chronic allergic states in patients with long histories of symptoms. Cases of sinusitis and rhinitis were usually acute exacerbations of chronic conditions. Untreated attacks were generally of three to four weeks duration. In some patients, however, symptoms persisted for months or years.

Twenty-seven patients with sinusitis had marked hyperplastic changes in the nasal mucosa, with polyp formation in 20.

Regimen

Detailed case histories were obtained in all patients. Except those with obvious seasonal attacks, all patients were examined for eosinophils and pathogenic organisms in secretions, and/or given x-ray examinations and skin tested.

The object of therapy was to control symtomatology and pathological changes in the nasal mucosa.

The dosage in adults ranged from 12 to 72 mgms. daily. The majority of patients received sustained action tablets. During acute stages and postoperatively, dosage was generally 12 or 24 mgms. three times a day. In chronic conditions and after symptoms were controlled 12 or 24 mgms. was given only once or twice daily. Children received regular or sustained action tablets; the dosage ranged from 12 to 36 mgms. daily.

Duration of therapy depended on the severity of the condition and the patient's history. When patients were first seen, therapy was given from two to five weeks even though symptoms may have been controlled within the first few days of treatment. They were then instructed to start therapy immediately at the onset of symptoms of future attacks and continue it for two to three weeks after symptoms were controlled.

Twenty patients with hyperplastic changes of the nasal mucosa underwent surgery. They were given isothipendyl for two to five weeks following the operative procedures.

Patients were seen at frequent intervals, particularly those with histories of mucosal changes. Some patients have been followed up for over one year.

Twenty-six patients at one time during this study were given placebos for a period of three weeks.

Where indicated, patients received topical treatment at the office and a mild vasoconstrictor nasal spray such as 1-phenylephrine to be used at home. The use of sedatives was not necessary in any patient.

Results

Table I gives the results in all patients. "Excellent" results indicate those patients in whom symptoms were controlled almost immediately (24-48 hours) after the start of therapy. "Good" results are patients who responded more slowly (48-72 hours) but who became asymptomatic. "Fair" results are those patients who had only partial control of symptoms.

Comment

Results in these 119 patients demonstrate that therapy provided excellent response in 42 percent; good in 42 percent; fair in 12.5 percent and poor in 3.5 percent.

Treatment was generally effective in patients with chronic conditions and acute exacerbations. In those who had perennial symptoms, it was possible to stabilize the condition. In others with histories of recurrent episodes, complete control of symptoms was easily accomplished. Previous attacks had run their course despite antihistamines and other therapy. Patients who were dependent upon various intranasal vasoconstrictors could eliminate their usage.

No allergic mucosal changes have been seen in patients with chronic conditions who have been receiving isothipendyl intermittently for over one year. Furthermore, 14 patients with polyps and other nasal pathology were given isothipendyl before undergoing surgery. Seven of these had sufficient regression of the mucosal changes to permit postponement of the planned operative procedure. Three of the seven had had frequent polypectomies in the past. In the twenty patients who underwent surgery, iso-

TABLE I RESULTS WITH ISOTHIPENDYL

	EXCELLENT	6008	FAIR	POOR	TOTAL	LS
Sinusitis	12	17	2	2	33	
hyperplastic	14	7	6	-	27	
with external otitis media	2	1	_	_	3	
" Menière's syndrome	1	4	1	_	6	
" asthma	-	2	1	-	3	72
Rhinitis	7	7	1	1	16	
with hay fever	3	2	_	_	5	
" external otitis media	2	1	-	-	3	
" Menière's syndrome	-	1	_	-	1	
" asthmatic bronchitis	- Charles	1	-	_	1	
" urticaria	-	1	1	_	2	
" eczema	-	1	_	-	1	29
Sinusitis and Rhinitis	7	3	_		10	
with hay fever	1	_		1	2	
" bronchitis	1	_	-	_	1	
" urticaria	_	1	-	-	1	14
Hay Fever	_		2	_	2	
with eczema	_	-	1	_	1	3
Rose Fever		1	-	_	1	1
	50	50	1.5	4	119	119

TABLE II RESULTS OF ISOTHIPENDYL AND PLACEBO THERAPY

- ISOTHIPENDYL					PLACEBO			-TOTALS
Excellent	Good	Fair	Poor	Excellent	Good	Fair	Poor	
6	3	-	-	_	-	1	8	9
2	3	1	_		ments.	-	6	6
_	1	****	_		-	(March)	1	1
_	1	-	-		-	100000	1	1
1	_	-	_	_	_	-	1	1
5	2	-	-	_	-	*****	7	7
1		-	-	_	-	-	1	1
15	10	1	-	_	_	1	25	26
	6 2 — 1 5	Excellent Good 6 3 2 3 - 1 1 - 1 5 2 1	Excellent Good Feir 6 3 — 2 3 1 — 1 — 1 — 5 2 — 1 — —	Excellent Good Fair Poor 6 3 — — 2 3 1 — — 1 — — 1 — — — 5 2 — — 1 — — —	Excellent Good Fair Pear Excellent 6 3 — — — 2 3 1 — — — 1 — — — 1 — — — — 5 2 — — — 1 — — — —	Excellent Good Foir Poor Excellent Good 6 3 — — — — 2 3 1 — — — — 1 — — — — 1 — — — — — 5 2 — — — — 1 — — — — —	Excellent Good Fair Poor Excellent Good Fair 6 3 — — — 1 2 3 1 — — — — 1 — — — — — 1 — — — — 5 2 — — — — 1 — — — — —	Excellent Good Fair Poor Excellent Good Fair Poor 6 3 — — — — 1 8 2 3 1 — — — — 6 — 1 — — — — 1 — 1 — — — — 1 1 — — — — — 7 1 — — — — — 7 1 — — — — — 1

thipendyl controlled postoperative symptoms rapidly. Eight of these have been followed up for over a year. No regrowth of polyps has been evident despite the fact that some of the patients have histories of such recurrences.

Associated conditions were also benefitted when they were allergic in nature. Six patients had a concomitant chronic eczematoid dermatitis of the external auditory canals. Isothipendyl reduced itching and discharge with a marked lessening of the objective dermal signs. Three of these patients had shown little or no

improvement after many years of local and systemic medication. Six of seven patients with Menière's syndrome had noticeable relief of tinnitus, vertigo and hearing loss. Bronchial conditions were benefited in those patients who did not have extensive pulmonary pathology.

Side effects were minimal regardless of the dosage. Slight nausea was reported by two patients and slight drowsiness by six. This 5 percent incidence of drowsiness was considerably less than that resulting from prior antihistamine therapy.

Results in the Placebo Control Group

The use of placebo in 26 patients demonstrated the antiallergic efficacy of isothipendyl. Table II compares the results of isothipendyl and placebo therapy.

When on placebo twenty-five patients showed no improvement; only one patient reported fewer symptoms. Twenty-five patients were benefited when receiving isothipendyl; one was not. Those patients with acute recurrent attacks who had been on isothipendyl with immediate benefit for prior episodes could not understand why they had no relief when the placebo was prescribed. When isothipendyl was substituted for the placebo, there was a marked sudden cessation of symptoms.

There were no side effects reported while patients were receiving isothipendyl. One patient was slightly nauseated on placebo.

Conclusion

Despite the close resemblance to infection, many ear, nose and throat conditions are definite allergic responses. Detailed studies of patients should be made to determine possible allergic etiology. The nature of the allergic reaction should be found and eliminated and any obstructive nasal pathology removed. Then stabilization with antihistamine therapy is more readily achieved.

Isothipendyl hydrochloride, a new antiallergic drug with a minimal sedative effect, produced

good to excellent results on long term therapy in 84 of 119 patients with chronic and severe allergies seen in the practice of otorhinolaryngology.

Isothipendyl appears to be of particular value in the treatment of sinusitis and rhinitis. Its oustanding efficacy may be partly explained on the basis of an antiserotonin effect. Recent studies have shown that serotonin, as well as histamine, may play a significant role in allergic phenomena.

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255 South Seventeenth Street



First, Case:

Rheumatoid Arthritis at Age 78

Second Case:

Absent Left Pulmonary Artery

First Case: K.K., Female, Age 78 Rheumatoid Arthritis at age 78 Presentation: Dr. W. Clarkson Discussion: Dr. D. Friedman

DR. PERRIN H. LONG (CHAIR-MAN): The first patient is Mrs. K. K., female, who has rheumatoid arthritis at the age of 78. The presentation will be by Dr. Clarkson.

DR. CLARKSON: The patient, Mrs. K., was originally admitted to this hospital as a disposition problem with diagnosis by the admitting physician of rheumatoid arthritis. Mrs. K. states that she was well until the age of 76, approximately 18 months ago, at which time she developed acute, warm, tender swellings of both knee joints with pain on motion of of these joints. This lasted for approximately three months and then it subsided. Several months later the pain and painful swelling recurred in the knees, wrists, and fingers and was associated with limitation of motion. The symptoms were persistent and was treated for a time by her physician with aspirin which gave some relief. Approximately six months ago, at which time she had an injury to the right knee, she was seen here in this hospital, and

had a negative x-ray of the injured knee. The symptoms in her leg became progressively more severe and incapacitated her, and did not respond to aspirin given by private physician. She was then admitted here.

On admission, the past history of the patient and the review of her systems was essentially normal. She denied any previous episodes of arthritis. She has had no respiratory difficulties, infections, or chest pains. She has no GI complaints, and denies any history of sensitivity or allergies.

On admission, the vital signs were as follows: Blood pressure 150/70, pulse 110, with no irregularities, respirations 34, and her temperature was 99°. On physical examination, the pertinent findings were that the lungs were clear, the heart had a regular sinus rhythm with premature ventricular contractions, there were no murmurs. The only positive findings were noted in the extremities.

The patient was sensitive to pain on touching any of her extremities and on any attempt to move them. She held her arms in flexion.

From the State University of New York, Downstate Medical Center, Kings County Hospital Center, Brooklyn, New York.

She held her knees in flexion. She had ulnar deviation of the wrists. At the time of admission there was tender swelling about both knees and about the metacarpal phalangeal joints on the left hand. Heberden's nodes were noted about the distal interphalangeal joints.

The laboratory findings were hemoglobin 10.3, white count 5,700, Sedimentation Rate corrected 32. The urine had a specific gravity of 1.010 and it was negative for sugar, acetone, and albumin. The microscopic examination was negative. BUN 15, FBS was 101, calcium was 9.7, phosphorus 4.4, alkaline phosphatase 0.9. Uric acid 2.5. Total protein was 6.1 with an A/G ratio of 3 to 3.1. Seven percent retention of BSP was noted at 45 minutes. LE Prep was negative, bone marrow showed an active marrow with slight increase in the eosinophils. The C-reactive protein qualitatively was 3 plus, the latex test was positive in dilution 1:10240. C-reactive protein in this laboratory was positive for groups of 1 to 320. Dr. C. Plotz saw the patient and felt she had an acute active rheumatoid arthritis.

The patient has remained afebrile throughout her hospital stay. She was initially treated with aspirin without any response. She could not be moved about in bed without experiencing great pain. She then started on Butazolidin in a dosage of 600 mgms. per day. She showed a marked response by a reduction of pain and tenderness accompanied by a greater range of motion. The dosage was cut down and an attempt is being made to eliminate it entirely. She has shown no change in her hemoglobin, her white count at present is about 9,000.

The patient is here. X-rays will be described.

DR. LONG: Thank you very much, Dr. Clarkson. (. . . Dr. Long called attention to the increased size of the first joints of the patient's two hands. . . .)

Dr. D. Friedman: Will the radiologist describe the x-rays.

ROENTGENOLOGIST: The x-rays of the hands show that there is obliteration and narrowing of the joint spaces in the interphalangeal regions. Near the proximal interphalangeal joints one finds some cystic changes in the bone. It is rather dark and difficult to project them all. There are cystic changes in the bone adjacent to the involved joints. In the area of the left wrist also there seems to be an absorption of the styloid process of the ulna. These changes are multiple, involving many of the joints. In the middle finger on the left hand there is a superimposed osteoarthritic change. It is secondary to the rheumatoid process. In the film of the abdomen one can visualize the pelvis and here an obliteration of the sacro-iliac joint is seen.

DR. D. FRIEDMAN: We have presented a patient having rheumatoid arthritis which is quite characteristic except for one thing, the age of onset of the disease in this patient. As you have heard she was 76 years-of-age when her disease began. She shows all of the typical changes in the various joints.

Rheumatoid arthritis is generally a disease of the young people, typically described at the age of 25, 35 or possibly 45-year-of-age. Much has been written about rheumatoid arthritis in the juvenile age group in which it is known as Still's disease. Very little can be found in the literature about rheumatoid arthritis in the older age groups. Cecil, in his last edition, states that rheumatoid arthritis occurs in young people but in three of the photographs which he presents in his last edition, two show rheumatoid arthritis in the hands of elderly patients.

As far as the diagnosis is concerned the American Rheumatism Association suggests eleven criteria for the definitive diagnosis of this disease. Our patient shows seven of these eleven criteria. To list them, there is: (1) objective pain and tenderness in one joint, (2) objective joint swelling, (3) objective joint swelling in a second joint, (4) symmetry of joint involvement, (5) morning stiffness, (6) there is a positive agglutination test, and (7) there are typical x-ray changes. The Association proposes that five of these criteria should be present in order to make a positive diagnosis. We have seven as I have mentioned.

In the differential diagnosis, of course, all

the other arthritic diseases should be ruled out and this is quite easy to do in this patient.

First a word about osteoarthritis. Osteoarthritis will almost always be present in the clderly patients. It can be present in one or several joints. In this patient we found osteoarthritis and Heberden's nodes in the terminal joints whereas rheumatoid arthritis usually affects the proximal joints.

One entity which I should like to mention and which we discussed quite a bit on the ward was hypertrophic osteoarthropathy. This, I believe, is very necessary to think about and to rule out in the elderly patient who has arthritis. Osteoarthropathy has three components: there is clubbing, there is chronic periostitis, and also the arthritis that may go with it. The joints involved may be the same joints that we see here and they can appear just the same. They can be swollen, have limitation of motion, and even can go on to ankylosis. The overlying skin in osteoarthropathy can be tender, can be warm, and can have the dusky red color which we saw in our patient when she was first admitted. However, the x-ray changes are quite different and quite characteristic. In osteoarthropathy the x-ray changes show a chronic periostitis at the ends of the long bones, whereas in rheumatoid arthritis you have the changes as we have seen here. Earlier, there is swelling around the joint space: the soft tissue swelling. Later it goes on to demineralization and loss of density of the bones. The diminution of the joint space itself is most characteristic. This we saw in the x-rays. The bone erosion may be cystic with punched out areas with final loss of the joint space itself, with complete destruction and dislocation. Ankylosis is the terminal change.

As far as some of the laboratory findings which we saw here, the mild secondary anemia is quite characteristic, although, as I will mention later, this is not seen as often in the elderly patient. The anemia is not a hemolytic anemia. Exactly what it is is not known at this time but there is an elimination of production of red blood cells. You have heard that there was a mild hyperglobulinemia present. This will

decrease as the patient goes into a remission. However, there is no relationship between the agglutinating factor and agglutinating test with improvement. In other words, the agglutinating test may remain positive in the same degree right along. The hyperglobulinemia should bring up the subject of Lupus erythematosus. A few of these patients have had positive L. E. cell tests without convincing proof that they had anything more than rheumatoid arthritis.

In 1951, Cecil reported 100 consecutive cases of rheumatoid arthritis in elderly patients. All his patients were over the age of 50. Twenty-five of them were over the age of 70. The sex incidence in these patients was somewhat different. There were 50 male cases and 50 were female. It is known that rheumatoid arthritis is generally in a ratio of 3 to 1 in females to males; except for the rheumatoid spondylitis. In the same paper, Cecil quotes a report of Snell in 1941 in which 41 cases over the age of 55 are discussed. It is of interest that in these elderly patients, secondary anemia was not as commonly found as it is ordinarily in older patients. Snell also discusses the increase of the sedimentation rate in these elderly patients and he mentions that in them the joint spaces involved are generally the larger joints and particularly the shoulder joint.

In conclusion I think we will find that with an increasing percentage of our population in the older age group, that long accepted concepts of the age of onset of rheumatoid arthritis may well have to be revised.

Dr. Long: Thank you, very much, Dr. Friedman.

Can anyone enlighten me on this latex test? Is that based on physical precipitation or agglutination of latex particles by globulin? Why latex? Couldn't you use spores just as well?

Voice: Latex is a non-specific body.

Dr. Long: How much credence should be put in it? We don't put too much stock in the C-reactive protein test.

DR. LONG: What I am wondering about is in how many people who don't have rheumatoid arthritis is the latex test positive? DR. DOCK: There is one report from another laboratory in which they felt this was the best test. There was the greatest distinction between other diseases and rheumatoid arthritis with the latex test than with any of the other agglutination tests used.

Dr. Long: I was interested because I don't know too much about the latex test.

VOICE: How did you arrive at choice of medication?

DR. FRIEDMAN: After the trial of salicylates which gave this patient no relief, it was a problem whether to give her gold, a steroid, or Butazolidin. Fortunately, with therapy with Butazolidin she went into remission. The dose was then reduced to 200 mgms. per day and she has improved rather well.

DR. LONG: Thank you Dr. Friedman, we will go on to our next patient who is a younger individual whose record will be presented by Dr. H. Salomon and discussed by Dr. H. Lyons.

Second Case: H.B., Male, Age 45
Absent Left Pulmonary Artery,
Erroneously Treated for Tuberculosis
Presentation: Dr. H. Salomon
Discussion: Dr. H. Lyons

Dr. H. Salomon: This is the first University Division Chest Service and Kings County Hospital admission of a 45-year-old Negro male who came in with a chief complaint of cough, fever, and chills occurring during the ten days prior to admission.

His medical history is quite a long one extending probably back to his childhood when he recalled that he had episodes of bronchitis beginning around the age of 4 to 5. He also notes that he had a productive cough since the age of at least 20, and he was not taken into the military service in 1942 because of an abnormal chest x-ray and cough. He first became known to the Brooklyn Department of Health in April of 1953 when he appeared for an x-ray. X-ray abnormalities were noted in his chest. These consisted of retraction of the medastinum of the left chest

and densities in the upper two-thirds of the left chest.

His first hospital admission was in May of 1953 because of this x-ray. It was noted that his tuberculin was negative and although he was suspected of having tuberculosis, no positive sputum or other cultures were forthcoming. Within a month he signed out. He was again admitted to the hospital in October 1953 because he had his first episode of a brief hemoptysis. There was one and incidentally the only positive acid fast smear or culture at this time. This smear reported in October 1953 on the basis of which he was started on INH and streptomycin which he received for two months and then again signed out. His subsequent medical history is a repetition of each previous admission. He would be admitted, he would receive brief courses of antituberculin therapy and then sign out. A few highlights in his case included a note from the Board of Health in March, that in 1954 no chest x-ray change was noted from previous studies. He had a pneumoperitoneum in April of 1955, and finally in March 1956 he received his first complete course of antituberculin therapy in this hospital over a period of seven months. Then he was followed by the Board of Health and he received another year of therapy with PAS and INH. He was then lost for a while on follow-up, but in October 1957 appeared at the Board of Health again. Clubbing was noted, his alcoholic trouble was apparent and he complained of what may have been chills but some interpreted what he said as convulsions.

He has coughed up a half-cup of foul sputum each day for years. He has had a continued intake of approximately three pints of Sherry wine per day for many years. He had weight loss over a six month period which added up to 20 pounds and in the ten days prior to admission noted fever, night sweats, malaise, and an increase in his cough so that it was producing at least a cup of purulent sputum a day. He had pain in the chest especially when lying on the left side.

On physical examination he was found to

be a well developed, well nourished, Negro male who appeared acutely ill and had no respiratory distress except for cough. His vital signs except for a temperature of 104.4 were normal. Positive physical findings consisted of carious teeth with marked gingivitis, trachea pulled to the left, the right chest was normal, the left chest had decreased excursion and resonance on the left, increased fremitus and whispered pectriloquy on the left, bronchial sounds in the upper half of the left chest, and large rales in the lower half. P2 was equal to A2 and there was marked clubbing.

His laboratory studies showed a normal urine, a white count between 4 and 9,000 with a normal differential count, his hematocrit was 35. Four or five cultures for tubercle bacilli have been negative. Several cultures for fungi have been negative and Papanicolaou studies of the sputum have never been more than Class II.

Penicillin was administered when diplococci were found in his sputum. The culture showed a mixed flora so streptomycin was added. He became afebrile within a day, and has continued to be essentially afebrile with occasional elevations around 100° since then. His rales have decreased especially following bronchoscopy as has also the production of sputum. His pulmonary function test revealed a vital capacity of 59 percent of the predicted and mild restrictive disease. On the basis of what was noted in the x-ray of the chest an angiocardiogram was done which you will see.

In the future it is planned to have bronchospirometric studies followed by tooth extraction, and then a left pneumonectomy will be done.

In summary, the patient is a 45-year-old alcoholic male with chronic pulmonary disease. Since early life he has had intermittent tuberculin therapy without adequate proof of the diagnosis of tuberculosis. He has left bronchiectasis and absent left pulmonary artery. The patient will come in and you will see his clubbing.

Dr. Long: Will you please come in? Just raise your hand. How long have you been getting big at the ends of your fingers?

MR. H. B.: Ever since I can remember.

Dr. Long: Do you think you were born with these enlargements?

MR. H. B.: No.

Dr. Long: Where were you born, by the way?

MR. H. B.: Born in Brooklyn.

Dr. Long: You were born and raised in Brooklyn?

MR. H. B.: Yes.

Dr. Long: And, ever since you can remember you had fingers like this.

Dr. Long: Thank you, very much. Dr. Lyons, what do you want to discuss first of all, the x-rays of this patient?

Dr. Lyons: I'll take the x-rays first. (Projections of chest roentgenograms now followed)

To recognize the condition which this patient has, there is a physical finding which was not mentioned by Dr. Salomon. This sign is that the left chest is smaller than the right in volume. And this finding, plus others, such as the history and the x-ray findings arouse a suspicion of the type of abnormality. May we see the first x-ray?

On this projection of the chest x-ray film, one notes a decreased lung volume on the side where there is a fibrocystic type of infiltrate in the lung. The other notable finding is the displacement of the mediastinum to the left. The right lung is hyperlucent and the vessels on this same side are normal in appearance. Another characteristic x-ray finding present here is the herniation of the right lung across the mediastinum to the left side. Four instances of this abnormality have been encountered on our wards.

In all of these, the abnormality was on the left side. Another helpful finding is elevation of the diaphragm on the involved side, and most important is the absence of a vascular pattern. Another finding which was helpful in another patient was elevation of the hilar region on one side.

May we see the next roentgenographic film? This is just another frontal view which shows the same findings with a different degree of exposure.

Next film—This is the lateral view which doesn't demonstrate very much except that one doesn't see the definite shadow one should see here in the left hilar area, and one can't make out any branch of the pulmonary artery which runs in an anteroposterior direction.

Next, please—Next is the tomographic study, and I show this because so often it is argued that the tomographic study can demonstrate vascular abnormalities. Here it does not aid in the diagnosis.

Next—Here is the bronchographic study and it shows the presence of the bronchiectasis and it is extensive bronchiectasis, much more than usually seen, and of a different type than the usual. It is very extensive and involves even the major bronchi, which is a very unusual finding in the acquired type of bronchiectasis ordinarily seen.

Next—Here is oblique view. Again the large sacs present in the bronchial tree are seen, and another oblique view demonstrates the wide extent of the bronchiectasis. It includes even the major bronchi.

On the angiocardiographic study in this early film, the right atrium is filled and there is apparently beginning "opacification" of the right pulmonary artery circulation.

Then, here on a later film, one notes the right ventricle and pulmonary artery opacified and there is but one major branch. No left branch of the pulmonary artery is present. This angiocardiographic study demonstrates clearly and confirms the suspicion from the findings noted on the plain films of the absence of a left pulmonary artery in association with homolateral bronchiectasis.

In absence of a left sided pulmonary artery, one usually finds a normal heart, or associated anomalies of the chambers of the heart. In absence of a right sided pulmonary artery, if congenital lesions are present, these are of the great vessels. Emanuel and Patterson made a study of this association recently and their findings reported in the British Heart Journal.* In a patient with an absent pulmonary artery,

visualization of the bronchial circulation is looked for; for in this anomaly bronchial arteries may be greatly enlarged. In the study of this patient we were unable to see these even though the entire aorta was opacified, the renal artery on both sides were clearly seen and serve as a measure of the degree of opacification of the aorta. Nonvisualization of the bronchial circulation occurred in the studies of the other patients with absent pulmonary arteries. An excellent demonstration of the branchial arteries by retrograde aortogram technique was demonstrated by Alley† in a patient with secondary obliterative arteritis of the left pulmonary artery and reverse broncho-pulmonary artery blood flow due to chronic pulmonary suppuration (bronchiectasis).

In the history of this patient, a finding in our other patients, hemoptysis was a prominent clinical symptom. One of the four patients had hemoptysis occurring only on exertion, and this was believed to be from the higher pressure of the bronchial circulation. These vessels communicating with the pulmonary capillaries and rupturing during periods of raised pressure during exertion.

A pulmonary function study showed the total lung volume to be reduced. A normal arterial oxygen saturation was present, which is the proof of the fact that there is an absent pulmonary artery, without circulation on the involved side. The dead space was found increased. The predicted dead space for this patient is 137 cc, and the determined dead space was 240 cc. Bronchospirometric studies are planned to measure the amount of ventilation of both lungs. The oxygen uptake can be determined at the same time, and this will give evidence of the degree of volume of blood flow in each lung, and by simple calculation from the arterial oxygen saturation it can be determined whether there is any blood flow present

^{*} Emanuel, R. W., and Patterson, I. N.: Absence of Left Pulmonary Artery In Fallot's Tetralogy, Brit. Heart Journal, 18:3, 289, July 1956.

[†] Alley, R. D., Stranulan, Kausel, Formel, Van Microp, Paper presented at American Fed, for Research Meeting, December 1957.

on the involved side. It is of interest that the bronchial circulation as the sole blood supply can allow the excretion of carbon dioxide. If nitrogen is supplied to the opposite lung for inhalation, it will be found that the bronchial circulation may take up a small amount of oxygen on the affected side. After operation it is planned to study this lung very carefully by injection for outlining the course and nature of the bronchial circulation. Dr. Israel Steinberg and myself have been interested in this condition in which there is absence of a pulmonary artery in association with bronchiectasis. We believe the two lesions may be congenital in origin, for in all other instances studied both here and at New York Hospital bronchiectasis has not been present. A number of instances, with the same type of x-ray findings due to extensive bronchiectasis, have been studied by angiocardiography and have shown a normal pulmonary arterial circulation except for the obliteration of the terminal branches.

A further lesson to be learned from this patient is that the diagnosis of pulmonary tuberculosis was never confirmed. He was treated without a positive culture ever being obtained. At least two years of his life was spent in a sanatorium, this unjustly so. No one should ever treat tuberculosis without positive confirmation of the diagnosis. It becomes a problem for physicians who must manage patients who have previously been started on therapy by someone in the absence of positive bacteriological confirmation. You are then left with a difficult problem because the obtaining of a positive culture after therapy has been started is very difficult.

Finally, it is to be pointed out that an absent pulmonary artery is probably not as rare an anomaly as it was previously considered to be. Thank you.

Dr. Long: Why was he thought to have pulmonary tuberculosis?

Dr. Lyons: This was the diagnosis when we received the patient. From what we can learn from his chart, the diagnosis was made on the basis of x-ray findings, and one positive smear on his earlier admission, without another positive smear or culture ever being obtained over a 2½ year period of hospitalization.

DR. Long: Now, that brings up a point. Let us take the smear first. How many times do you think you get a positive smear with an acid fast organism which isn't tuberculosis in this country?

DR. LYONS: We see it quite frequently especially in our alcoholic patients.

DR. LONG: What do you suppose happens to the alcoholic patients?

Dr. Lyons: We believe this comes from aspiration of material such as food.

DR. Long: Why did whoever looked at that x-ray think that it was tuberculosis?

Dr. Lyons: I have no idea except that he read it as caseous exudative tuberculosis.

DR. Long: Do you suppose when he had those clubbed fingers he had any symptoms, do you remember?

DR. LYONS: I'd like to believe that; it may add weight to the thought, that this is all congenital. I am uncertain whether this point can be proven. It will require a good deal of work. The establishment of the origin as congenital will be very helpful. On cardiac catheterization of this patient the pulmonary circulation was found to have normal pressures, and on exploration with the catheter for a left pulmonary artery, and this was done thoroughly, the catheter could not be made to enter anything in that area.

DR. Long: I noticed this morning his lips were not cyanotic.

DR. LYONS: He has a high sedimentation rate. I think it has returned to normal recently. His sputum has been reduced appreciably All of this has resulted from antibiotic therapy and postural drainage.

Dr. Long: Thank you, very much, Dr. Lyons, for discussing your most interesting patient.

Clinico - Pathological Conference

UNIVERSITY OF TEXAS-MEDICAL BRANCH HOSPITALS

CONFERENCE PARTICIPANTS

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ELWOOD E. BAIRD, M.D., Professor of Pathology and Director of Clinical Laboratories, Department of Pathology

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R. HOPPS: Our Clinical Pathologic Conference for today poses a difficult diagnostic problem, and this is reflected by the variety of diagnoses which those of you in the audience have provided. For the benefit of our panel and for your information as well, student diagnoses were as follows: The majority of seniors felt that our patient had a malignant tumor arising from the stomach or colon; the majority of juniors felt that the patient had a primary disease of his liver, probably viral hepatitis. Among the other diagnoses were carcinoma of the lung, pancreas; tuberculosis, blastomycosis, coccidioidomycosis, "collagen disease," hepatic cirrhosis, Weil's disease, and even sarcoidosis.

PROTOCOL: This 68-year-old white male was first admitted to Medical Branch Hospitals on July 11 for a period of 38 days because of chronic cough productive of purulent sputum for many years. A diagnosis of lung abscess was made, and the left lower lobe and lingula were removed surgically. During the operative procedure transfusions were required, the patient receiving 6,000 ml of whole blood.

The pathologic report was pyogenic abscess; tissue studies and acid fast cultures of the abscess itself were negative for tuberculosis (or other infectious granulomas). Incidental diagnosis made at the time of this hospitalization

included diverticulosis of the duodenum and colon, and nonfunctioning gall bladder.

Rib Resection

On September 18 of the same year the patient was readmitted because of a persistent air-fluid level in the left chest. A partial rib resection was done with institution of open drainage. This led to considerable improvement, and the patient was discharged on his 37th hospital day.

Last admission occurred on November 27 of the same year, 12 days before his death. This time the patient's chief complaints were of abdominal pain with "swelling and red spots on his skin." He had continued to improve following his recent discharge from the hospital, and drainage from his chest had almost stopped. There had been no fever, chills or nightsweats. Anorexia began two or three months before the time of last admission and gradually progressed. Approximately three weeks before this admission he first noticed small red spots on his ankles; gradually these progressed to involve all of his extremities.

With this there was swelling of his ankles and his right knee became swollen, hot, and ached. Three to four days after this there developed gradually a generalized cramping abdominal pain most prominent in the periumbilical region. On the day this symptom made onset the patient vomited three times and the following morning he had six dark, liquid stools. There was no hematemesis or melena. Abdominal swelling progressed as well as swelling of the legs. In addition there developed puffiness of the hands and face. Another episode of cramping abdominal pain and vomiting occurred six days before admission. Four to five days prior to admission, patient observed light stools, dark urine.

History

Past History: Forty-two years ago the patient was hospitalized for six months with diagnosis of chronic pulmonary Tbc. Forty years ago his gall bladder and appendix were removed. Family history: One brother had mental de-

ficiency and died in a state of paralysis. There was a family history of hay fever and asthma, "heart trouble" and diabetes.

Physical examination: On last admission the patient's temperature was 98.8°, pulse was 80, respiration 16, and blood pressure 120/80. He appeared chronically ill, had icteric sclerae. A few telangiectases were noted over the anterior chest wall and petechiae were seen over the legs and arms. Inguinal lymph nodes were slightly enlarged. The chest presented an increased AP diameter. The left hemithorax was somewhat smaller than the right and breath sounds decreased on this side; they were absent below T 9 and there was dullness and increased fremitus below T 9. The trachea was deviated to the left. Heart sounds were essentially normal; P₂ was greater than A₈.

The PMI was in the fourth intercostal space at the anterior axillary line. Occular fundi showed slight spasticity and tortuosity of arterioles. There was moderate ascites with considerable tenderness over the right upper quadrant and epigastrium. The liver was not palpated; but dullness extended three fingerbreadths below the right costal margin. The spleen was not palpable. Bowel sounds were normal. Rectal examination revealed slight enlargement of the prostate; feces were clay colored. There was pitting edema of the legs up to the knees, more marked on the right. The right knee was slightly tender, but was not more swollen than the left. Neurologic examination was negative except for a questionable Babinski sign on the right.

Laboratory Data

Hb: 10.4; RBC 3.52 M/cm—MCV 98, MCH 28.7, MCHC 29.2. WBC 8,050 with PMN, 73%, Stab, 1%, Basos, 1%, Eos 2%, Lymphs, 10%, and Monos 13% with five young forms. Platelets were 705,000/ml; Hmt. 34%; Bleeding time, 35 seconds; Clotting time, 7 minutes. Direct Coombs test was negative. LE test (6), negative. Urine: Sp. Gr. 1.018-1.023; persistent 4+ protein. Sediment contained 4-18 RBC's and 3-15 WBC's per hpf; 4-8 granular casts and rare waxy casts per lpf; test for bi-

lirubin was positive, undiluted and negative, 1:10 for urobilinogen.

NPN was 60 mgm per 100 ml, rising gradually to 105 at time of death. TP were 5 gm% with albumin 2 and globulin 3. Alk. phos. was 5.3 BU (P 2.8 mEa). Prothrombin was 60%. Ceph. floc. at 24 hrs., 4+. Thymol Turb. ranged from 7-10 units. Cholesterol was 133 mg/100 ml, bilirubin was 2 mg total with 1.5 mg direct, rising to 23.5 total with 17.5 direct at the time of death. Serum amylase was 88 units—24 hr. urinary amylase was 1500 units. Serum glutamic oxalacetic transaminase (SGOT) was 350 units, Serum electrolytes: Na 133, K 5.6, Cl 107, CO₂ 4.8 mEq/L.

Ascitic fluid was bloody, sp. gr. 1.010; albumin 1 gm%; WBC's were 150 cm. 75% PMN and 25% Lymphs; RBC's 10,000/cc.; Routine and AF cultures negative; cell block neg.

Two sputum cultures were negative for AFB; culture revealed alpha and beta strep and micrococcus species.

ECG—sinus tachycardia, low T waves posteriorly.

Radiologic Studies

Barium enema revealed diverticulosis as before. GI series revealed a diverticulum of the duodenum as before with a questionable filling defect in the greater curvature. Abdominal films were negative except for degenerative disc disease L 4-L 5. Chest films showed a shift of the mediastinum to the left with a small amount of fluid in the right pleural space. There was opacity in the left lower hemithorax as before, perhaps slightly increased. The left lung was well aerated above T 7 posteriorly.

Hospital Course

Following admission there was a progressive downhill course, with increasing icterus, reaccumulation of ascitic fluid (after paracentesis with removal of 1200 ml), loss of appetite, persistent dull abdominal pain, rising NPN and decreasing urinary output. On the day of his death the patient lapsed into coma, later

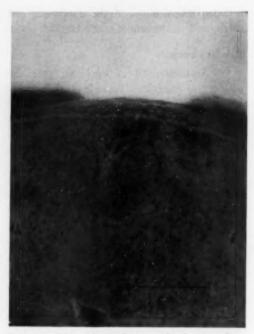


FIGURE 1. Liver Macrophotograph of cut surface magnified approximately 3X to show exaggeration of lobular markings and foci of necrosis.

going into shock. He expired quietly despite supportive measures which included vasopressors and hydrocortisone IV (10 mgm Q6 hrs the last two days).

DR. WRIGHT: This was a 68-year-old male with chronic suppurative pulmonary disease of many years duration who improved following surgical removal of infected lung tissue and drainage of an empyema cavity. However, the improvement was short-lived, and there developed progressive involvement of the liver and kidneys with progressive jaundice, ascites, decreasing urinary output, and uremia. This latter phase of the patient's course lasted approximately one month.

Questions to be answered in the process of arriving at a definite diagnosis include the following: First, could involvement of the renal and hepatic systems be a manifestation of some generalized process that began as pulmonary disease for instance, carcinoma of the lung or an infectious granuloma? Alternatively,

is the involvement of liver and kidney entirely unrelated to the previous long standing pulmonary disease?

Second, with both hepatic and renal systems severely involved, is the renal disease secondary to hepatic failure, the so-called hepatorenal syndrome? Alternatively, are both systems primarily involved by some generalized systemic process such as widespread infectious disease, or "collagen disease?" (The history of joint involvement and the patient's petechial and purpuric hemorrhages early in his course lends support to the latter diagnosis.)

Third, considering time relationships, thinking particularly of the twelve blood transfusions which the patient received during his lobectomy, could our patient have homologous serum jaundice?

Fourth, does the radiologist's report of a questionable large filling defect in the greater curvature of the stomach indicate a primary carcinoma there or in some neighboring structure?

Possibilities

DR. PATTERSON: One thing that we can all agree upon is that this is a difficult case to diagnose with the information at hand. I've tried to tie the pulmonary disease to the terminal illness by considering disseminated granulomas such as tuberculosis, cryptococcosis or coccodioidomycosis, but this is foolhardy in view of assurances that the resected lung tissue was carefully studied with this in mind—and found negative.

Another possibility is that the patient had a carcinoma, perhaps of the stomach or perhaps of the pancreas. We should get more information about this in a moment, when we look at the x-rays. Carcinoma of either of these organs could give extensive metastases to the liver and these metastases could compress major hepatic bile ducts giving an obstructive component as well as a hepatocellular component to the jaundice. I'm inclined to consider the possibility of carcinoma quite seriously. Viral hepatitis can't be excluded, but the picture is certainly not typical.

Finally, collagen disease such as disseminated lupus must be listed as a very good possibility. With this we could tie together the several systems that are involved—joints, blood and/or blood vessels (the petechial rash), liver, kidneys, and even the lung, though I feel that the lung abscess was a separate and distinct process. Until we see the x-rays, at least, I'm favoring carcinoma of the pancreas or stomach.

Perhaps Dr. Baird could give us some additional leads.

DR. BAIRD: The laboratory evidence of altered pigment metabolism clearly indicates an element of biliary tract obstruction together with some loss of hepatic function, and we can go little further than this. In addition, one is impressed by the evidence of renal impairment and its accompanying sodium deficit, and I should like to dwell on this for a moment. The sodium deficit, as indicated by the low blood level and the very low carbon dioxide capacity of the blood, could have developed by losses through vomiting and diarrhea, together with sequestration in the ascitic fluid. It is more likely, however, that the deficit developed from excessive losses of sodium in the urine coupled with simultaneous restriction of Na intake.

Sodium Loss

It seems logical to assume that involvement of the liver led to decreased hepatic function with curtailed carbohydrate metabolism and accelerated fat metabolism, resulting in ketosis and an increased sodium loss in the urine. In addition, renal involvement itself probably led to some curtailment of ammonia formation by the tubules, with resulting increased loss of sodium.

We do not know whether the sodium deficit was only temporary or whether it progressed, playing an important role in the patient's rising NPN, oliguria and making important contributions to his death.

DR. GARBER: Before commenting on the possibilities in this case I would like the radiologist to demonstrate the x-rays with partic-

ular regard to the "filling defect in the greater curvature" because the demonstration of a definite lesion in this area would definitely modify my opinion. In addition, I might add that ordering a cholecystogram, despite the history of a cholecystectomy, is not as ridiculous or laughable as some of the students might believe. I say this because, in my experience, the patients are not always told that a cholecystomy was performed rather than a cholecystectomy — particularly if the latter has been planned and found too difficult to perform.

DR. WILSON: Chest films made on July 7 revealed a dense region of consolidation in the left lower lobe and lingula. There was considerable associated pleural reaction. No definite abscess cavity was seen. The etiology of the process in the lungs was not apparent from the films. X-ray studies of the paranasal sinuses at that time showed thickened membranes and clouding of both maxillary sinuses, probably secondary to chronic infection.

Two Series

A cholecystogram made in August revealed what appeared to be a very faint, but definite, gall bladder shadow in the right upper quadrant. Concentration of the dye was insufficient to exclude small calculi. Answering Dr. Garber's comment, we weren't informed that the patient's gall bladder had been removed, and I don't believe that it had been; I think that we see a gall bladder.

Two GI series were performed. The first, done on August 6, showed no significant abnormality, except for a large diverticulum arising from the transverse portion of the duodenum. The second GI series, done on December 2, revealed an extrinsic pressure defect on the greater curvature of the stomach probably due to gas in the colon. There was no evidence of carcinoma. Repeated films of the abdomen, during the patient's illness, demonstrated a rather small liver, but no other significant abnormality.

Dr. Garber: After seeing the stomach xrays I would agree with Dr. Wilson that no definite lesion of the greater curvative exists and, in my own mind, dismiss the possibility of carcinoma of the stomach. It would have been helpful to me if a more detailed description of the progression of the edema had been given because its site of first appearance and manner of extension may have a bearing on the diagnosis. Also, I'd like to know whether or not there was abdominal or thoracic venous engorgement.

Considering all the facts presented, and ignoring the fact that we have a virologist (Dr. Pollard) on this panel, the following possibilities come to my mind: 1) amyloidosis, 2) serum hepatitis with associated renal complications (hepato-renal syndrome), 3) thrombosis of the portal vein, 4) inferior vena cava thrombosis with associated Budd-Chiari syndrome (thrombosis of hepatic veins), 5) carcinoma of the kidney. The normal blood cholesterol and presence of jaundice and hepatic failure would eliminate secondary amyloidosis.

Thrombosis of the portal vein is unlikely without splenomegaly, gastric hemorrhage, hematemesis, ileus, or melena.

Carcinoma of the kidney with extension into the inferior vena cava as a cause for inferior vena cava thrombosis would have to be considered along with an inflammatory cause for such thrombosis. In view of the history of a swollen, warm right knee, inflammatory involvement of saphenous or femoral vein is the more likely, which could be followed by thrombosis of the vena cava. This, progressing to produce thrombosis of the hepatic veins, could give the picture described in the protocol, except that there is no mention of the collateral venous engorgement.

The sequence of events might have been: infection in the veins of the right lower extremity, then edema of right leg, bilateral edema, renal involvement, abdominal pain, involvement of the liver to produce enlargement initially then decrease in size, nausea and vomiting, and finally, liver and renal failure, and death.

Alternatively, serum hepatitis with associated renal complications of the so-called hepatorenal syndrome surely could have been the cause of this patient's illness; however, the swollen, warm right knee is difficult to place in this syndrome.

For this reason I feel that we are dealing with a Budd-Chiari syndrome preceded by inferior vena cava thrombosis.

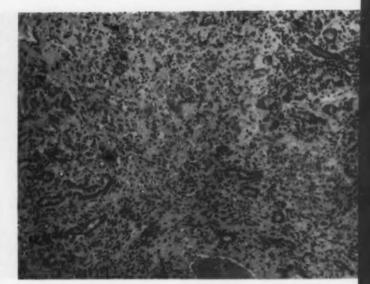
DR. PATTERSON: After seeing the x-ray films, despite Dr. Garber's persuasive argument, I'm going to change my diagnosis to viral hepatitis. But I'm far from certain that this will be correct.

Pathologic Findings

Dr. Hopps: At autopsy, the patient was poorly nourished (5' 10"-125 lbs.) and markedly jaundiced. Especially the right leg and the external genitalia were quite edematous. There were many petechiae and a few ecchymoses over the lower extremities. A wellhealed thoracotomy scar was evident on the left side, and there was a recent surgical stab wound in the mid-scapular region on the left, at the tenth rib. This was draining a small amount of pus. Upon opening the thoracic cavity, dense fibrous adhesions were encountered, obliterating much of the left pleural space. An encapsulated empyema cavity was found at the base of the left thorax containing perhaps 100 ml of light yellow pus, and the previously described stab wound extended into this.

The portion of left lung adjacent to the empyema cavity was atelectatic and there was moderate edema, but the major part of the left lung was unremarkable save for slight compensatory emphysema. The right lung showed little change. The pericardial cavity was normal and, aside from slight atrophy, the heart was normal. There was moderate atherosclerosis; major vessels were otherwise normal. The most important changes were found in the abdominal cavity. Dense fibrous adhesions involved the right upper hand quadrant binding the liver, colon and stomach into a mass that required sharp dissection to separate.

The liver weighed 950 grams, approximately 2/3 of normal, and its edge was well above the costal margin. Its capsular surface was



PIGURE 2. Liver: Magnification 130X; this is an area of massive necrosis and "condensation fibrosis." The apparent increase in bile ducts is probably also from "condensation." Moderate numbers of inflammatory cells are present, all mononuclears.

gray-green and somewhat wrinkled, reflecting the recent decrease in volume. It cut with decreased resistance; the parenchyma was discolored green-yellow-orange and quite flabby. The biliary tract was widely patent without evidence of inflammation. A saccular dilatation was found in the major hepatic bile duct, and this held an estimated 50 ml of pale green bile (compensation for the gall bladder which had been removed) and it was probably this that the radiologists interpreted as gall bladder. The spleen was slightly smaller than normal, 100 gms. It was grayish-red and rather soft.

The pancreas was not remarkable. The gastro-intestinal tract was carefully examined; there was no evidence of neoplasia. The diverticulum, which had been reported to be present by the radiologist, was searched for, but was not found. There were numerous petechial hemorrhages and small ecchymoses in the gastric mucosa and the stomach contained 200 ml of coffee ground material, but no foci of ulceration nor other specific sources of hemorrhage.

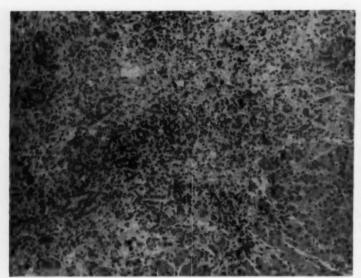


FIGURE 3. Liver: Magnification 130X; this shows a somewhat smaller area of necrosis, but the area is still "massive" in that it involves more than one lobule. Hepatic cells in various stages of degeneration are also seen.

Other Findings

The genito-urinary system was not remarkable except for moderate enlargement of the kidneys (175 and 140 gms) which were discolored yellowish-green. Cut surfaces bulged to disclose swollen parenchyma. This was the picture of cholemic nephrosis. The adrenal glands were perhaps 2/3 the usual size and cortices were deeper than that usual, depleted of lipid. The brain weighed 1370 grams and appeared quite normal; there was no evidence of increase in intercranial pressure. Other tissues were not particularly remarkable.

Histologically, the most important changes related to the liver, and I shall concentrate on these. No part of the liver presented a normal appearance—effects ranged from marked degeneration to patchy focal necrosis to massive necrosis. In the areas of massive necrosis the stroma had collapsed giving a first impression of increased fibrous tissue, but special stains for connective tissue confirmed the opinion that there was no true fibrosis. Looking carefully at foci of marked degenerative change adjacent to areas of necrosis, one gets information which points directly to the etiology.

Degeneration and necrosis of individual cells have taken a variety of forms; some nuclei are pyknotic, others karyolytic, and cytoplasm varies from being dense and granular to being swollen and vacuolated ("balloon cells"). Many bile canaliculi are prominent because they are distended with inspissated bile.

Hepatic cells which have undergone necrosis recently, but which are still present, have stimulated practically no inflammatory reaction. Moderate numbers of mononuclear cells have invaded areas of necrosis from which the parenchymal cells have disappeared, but very few polys can be seen there. All in all, the picture is entirely characteristic of viral hepatitis, and there is no question about the diagnosis. Whether this condition represents infectious hepatatis or homologous serum jaundice we cannot say because pathologic changes are identical in these two conditions. Dr. Earle, would you discuss neuropathologic changes in conditions of this sort?

Blood-Brain Barrier

DR. EARLE: Patients dying of hepatic failure frequently lapse into coma, or develop mental confusion, dysarthria and pyramidal tract signs. In some cases anatomical lesions are demonstrable in the brain; in other cases, no specific lesions are present, as was the case

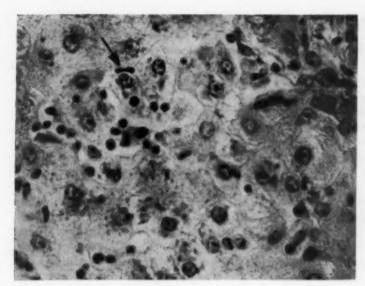


FIGURE 4. Liver: Magnification 620X; here one can see a variety of profound degenerative changes including balloon cells. The arrow indicates a bile canaliculus which is distended with inspissated bile.

here. The parenchyma of the brain is seldom found to be stained with bile pigment even in intensely jaundiced persons because of the remarkable efficiency of the blood-brain barrier.

Staining of nuclei does occur in cases of kernicterus but this indicates severe damage to the blood-brain barrier. Focal areas of cortical and subcortical necrosis develop occasionally in patients who survive, in a state of hepatic coma, for several days. The greatest controversy concerning neuropathologic changes in hepatic failure centers about the frequent finding of aggregates of large, atypical, naked, glial nuclei in the cortex in Nissl stained preparations.

These cells are called "Alzheimer glia" and are considered to be degenerating forms of proliferating astrocytes. Malamud states: "Such glial elements are consistently found in the central nervous system of cases with liver disorder, including Wilson's disease." I agree with this statement that these cells are characteristic but would like to emphasize that they are not specific. Atypical forms of proliferating astrocytes are found in many conditions which lead to partial destruction of brain parenchyma including injury from a variety of toxins and poisons.

Final Pathologic Diagnosis

- · Viral hepatitis, acute, massive
- · Jaundice, marked
- Nephrosis, cholemic, marked with azotemia
 - Empyema, basilar, left pleural-chronic
- History of surgical removal of left lower pulmonary lobe for pyogenic abscess
- Atelectasis, focal, with compensatory emphysema of left lung
 - · Atherosclerosis, slight

Correlation

DR. HOPPS: Making a clinical pathologic correlation from the pathologist's viewpoint, I believe that the patient's malaise, anorexia, etc., which began two or three months before his last admission, were the result of toxemia from the supra diaphragmatic abscess which, you recall, was draining very little. As to the "arthritis," I'm afraid I have little to offer. We were not permitted to examine the joints.

In my opinion, the terminal illness began about three weeks before hospital admission and represented viral hepatitis from the start (probably homologous serum hepatitis) with progression of the disease and continuing necrosis of hepatic tissue finally to the point of marked hepatic insufficiency, hepatic coma, and death.

Question: What about the renal insufficiency?

DR. HOPPS: This, I think, can be explained largely on the basis of cholemic nephrosis. Bile salts produce marked degenerative changes of renal tubular epithelium and seriously affect their function. There has been a great deal of speculation about the so-called hepato-renal syndrome. The cases that I have studied which might fall into this category all had fluid and electrolyte disturbance which was in part, at least related to hepatic failures and/or disorders such as vomiting, altered fluid intake, etc.

In addition, these cases all had cholemic nephrosis with marked degenerative changes in renal tubules, just as this one did. I believe that in most instances the hepato-renal syndrome represents a condition of altered fluid and electrolyte balance superimposed upon damaged kidneys.

DR. POLLARD: In our contemporary society, viral hepatitis appears attuned to the progress of civilization. Prior to the twentieth century, most of the human population developed early immunity to infectious hepatitis as a result of exposure to the virus during childhood. The disease appears to be milder among infected infants than adults and, due to this, the true incidence among children is hard to estimate. Recent trends indicate a rise in infection rate among our adult population. Serum hepatitis is an example of an artificially propagated disease, whose incidence is related to the increasing use of blood or its derivatives in modern therapeutic procedures.

The control of viral hepatitis, indeed even laboratory manipulations of the causative agent(s), are handicapped through lack of a susceptible experimental animal and lack of a specific laboratory diagnostic test. Studies

with human volunteers have revealed that these viral agents are durable. The virus of serum hepatitis is found only in the blood whereas that of infectious hepatitis is found in the viscera, blood, and intestinal contents. Infectious hepatitis is associated with exposure to an unsanitary environment whereas serum hepatitis results from inoculation with blood (or its derivatives) derived from a human carrier, as you know.

A basis for differentiating one disease from the other is a history of exposure to a contaminated environment (IH); or having received an injection of contaminated blood by transfusion or through use of a virus-contaminated syringe or needle (SH). Clinically, one of the most helpful points in differentiating serum hepatitis from infectious hepatitis is the relatively long incubation period of the latter. Passively induced prophylaxis against infectious hepatitis is provided by injection of pooled gamma globulin (gamma globulin preparations do not appear to carry the virus).

Serum hepatitis may be prevented, or at least its incidence materially decreased, by avoiding the careless use of blood as a therapeutic agent. Plasma may be sterilized by long storage plus ultraviolet irradiation, but this is not a practical solution of the problem.

Circumstances regarding the patient being discussed here support a diagnosis of viral hepatitis, possibly resulting from the blood transfusion some three and one-half to four months before onset of his disease. The clinical syndrome described and the hepatic lesions observed at autopsy strongly support this diagnosis. However, definite diagnosis would rest with isolation and identification of the viral agent from the tissues of the patient, and this should be associated with demonstration of antibodies for this virus in the serum of the patient. Unfortunately, as yet, such diagnostic procedures are not available.



Hypnotic Effects of Bufferin

The sedative and hypnotic effects of aspirin have not been widely appreciated, partly because they are mild, and partly because they are usually taken for granted, but mostly because of the difficulty of measuring these effects with any reliable degree of quantitation. The central analgesic action of aspirin suggests a depression of other hypothalamic centers as well, thus inducing a degree of mental relaxation conducive to sleep.

The central nervous system effects of aspirin are those of mild depression, the analgesic effects being the ones most studied.^{1, 2} The uses to which aspirin has been put are numerous, but relatively few of the indications for its use are of central origin.²

The salicylates are gently antihistaminic and anti-inflammatory.⁴ Traumatic edema can be reduced, thus affording relief of pain, partially due to reduction in local inflammatory edema.² Pharmacologic central depression is not easily induced by the salicylates, suggesting that the higher brain centers are not inordinately depressed.

It is well known that insomnia related to mild aches and pains usually may be relieved by aspirin. Proof that this same drug exerts an hypnotic effect in insomnia not due to physical discomfort requires well controlled and annotated data, to the end that patients receiving aspirin do indeed sleep better than when an inert placebo is administered. One of the chief reasons for the dearth of data on the hypnotic effect of aspirin is the difficulties inherent in a study of this type; another, the continuous and avid search for the "ideal" hypnotic with true

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centrally depressing action. In addition, the large number of currently obtainable hypnotic compounds, such as chloral hydrate and the barbiturates, makes unprofitable a detailed study on aspirin, especially since, unbuffered, it induces a high incidence of gastric irritability.

Experimental

One hundred and two subjects were studied sufficiently to be acceptable for inclusion in this study. Uncooperativeness was the main reason for the exclusion of a number of cases, since the replies given by such patients were considered unreliable. The two preparations given to the patients were in the form of standard tablets indistinguishable except by code number. One was Bufferin® (each tablet containing 300 mg. of aspirin, 100 mg. of magnesium carbonate and 50 mg. of aluminum glycinate). The other preparation was an inert placebo. The preparation was taken with water from one-half to one hour before bedtime.

The data reported herein were obtained through the use of an especially devised double-

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blind technique, already used successfully and described elsewhere.5 The important feature of the technique lies in the daily alternation between the two tablets being studied. Starting with one or the other tablet in alternate patients, the number of dosage units was increased rather rapidly, and within a week a maximum of four tablets was being ingested.

The response of each patient was recorded under two categories, i.e., 1.—the degree of sleep as reported by the patient and the attendants, and 2.-by a statement from the patient as to how he slept compared to the previous night, in terms of same, better, or less. These responses were recorded on a special chart. Finally, the data were itemized and correlated by a physician who had no actual contact with the patients.

The preparations were identified only by a code number. Approximately half the subjects were started on the medication, the remainder, on the placebo. This insured equal distribution of any psychological effects due to a new regimen. In addition, the responses were recorded on the following morning, without regard to code number of the preparation administered, thus minimizing bias. It was also stipulated that each patient included in the study should have some degree of insomnia, excluding the type due to pain, itching, cough, or other physical discomfort.

The premedication statistics indicated that the group of one hundred and two patients was comprised of fifty men and fifty-two women, averaging 64.4 years of age (19-98), hospitalized primarily for custodial care. Sixty-four percent of these subjects had been receiving some type of medication for insomnia (see Table I).

Results

The response data are presented in Tables II, III, IV. Table II shows the total number of administrations made for each preparation (Columns 2 and 7), followed by a breakdown of the response category. Under each category has been entered the percentile portion pertaining to each response. For example, Line One

TABLE I PREVIOUS USE OF HYPNOTICS

DRUG	NO.	%
None Barbiturate*	37 42	36 41
Chloral Hydrate Others°	9	9
Total	102	100

= 16 of these were phenobarbital.
= See master chart.

of Table II would indicate that: "Bufferin was given to 102 subjects. Of the 364 responses of all subjects, regarding how they had slept, irrespective of dose, 51, or 14 percent, were categorized as ineffective; 125, or 35 percent, as slightly effective; 176, or 48 percent, as markedly effective, and 12, or 3 percent, as completely effective. Of the 362 responses regarding how they slept compared to the previous night, 152, or 42 percent, revealed that sleep had been the same that night as the night before; 166, or 46 percent, had slept better, and 44, or 12 percent, had slept less well."

On the basis of the data in Table II, 48 percent of responses following administration of Bufferin were classified as "marked," compared to 34 percent for the placebo. This is indicative of a distinct difference between the two preparations. In addition, more than three times as many "slept better" after receiving Bufferin than after the placebo. This difference is considered statistically highly significant.

Table III shows the number of subjects who responded in the various ways listed in Table II. Taking the "marked" and "better" categories only, the first line of Table III would signify that, "Bufferin elicited a 'marked' response in 87, or 85 percent, and a 'better' response in 79, or 78 percent, of the 102 subjects studied." This method of analysis reveals that the Bufferin was more sleep inducing than the placebo, in the degree of response category, and more than twice as effective, in the "slept better" category.

Because the majority of the 102 subjects had been on hypnotic medication prior to the present study (Table I), it was felt that a weaker hypnotic, however effective, might ap-

TABLE II ANALYSIS OF FREQUENCY OF RESPONSES ALL DOSES ON 102 SUBJECTS

		REPORTED RESPONSE				COMPARATIVE RESPON			
	TOTAL	NO	SL.	MKD.	REL.	TOTAL	SAME	BETTER	LESS
BUFFERING	364	51 14%	125 35%	176 48%	12 3%	362	152 42%	166 46%	44 12%
PLACEBO	335	69 21%	148 44%	114 34%	4 1%	337	202 60%	50 15%	85 25%

TABLE III ANALYSIS OF PATIENT RESPONSE* (102 SUBJECTS)

	REPORTED RESPONSE			SE	COMPARATIVE		
	HO	SL.	MKD.	REL.	SAME	BETTER	LESS
BUFFERING	32 31%	65 60%	87 85%	9	84 82%	79 78%	30 29%
PLACEBO	44 43%	71 70%	59 58%	3 %	93 91%	34 33%	52 51%

^{* =} Number and percent of subjects who gave each type of response.

TABLE IV RESPONSES OF 37 SUBJECTS NOT RECEIVING OTHER HYPNOTICS*

	R		COMPARATIVE RESPONSE						
	TOTAL	NO	SL.	MKD.	REL.	TOTAL	SAME	BETTER	LESS
BUFFERINS	133	14 10%	56 42%	61 45%	2 1.5%	131	56 43%	64 49%	9 7%
PLACESO	128	24 19%	69 54%	35 28%	0	125	79 63%	18 14%	28 23%

^{* (}See also Table II)

TABLE V BUFFERIN® HYPNOTIC STUDY (Summary of Data Tables II to IV)

		PREP.	REF.	CTS	RESPONSE				
ROW	ROW			NO.	TOTAL NO.	MKD.	BETTEI %		
	A°	Bufferin	II	102	364	48	46		
		Placebo	H	102	335	34	15		
		D	ifferenc	es*		41	206		
	B°	Bufferin	Ш	102	-	8.5	78		
		Placebo	Ш	102	_	58	33		
		D	ifference	es		46	133		
	C	Bufferin	IV	37	133	45	49		
		Placebo	IV	37	128	28	14		
		D	ifference	es		61	250		

^{• =} Referred to in Discussion.
• = Differences are calculated as follows:

% Response to No. 345 — % Response to No. 346

× 100

[%] Response to No. 346

pear at a disadvantage. Therefore, an analysis was made of the responses of the 37 subjects who had not been getting any aid for their insomnia prior to this investigation. The differences between the responses of these 37 subjects to Bufferin and to the placebo are shown in Table IV to be of the same order as, but somewhat greater than, in the group as a whole (Table II).

Discussion

The data summarized in Table V indicate a distinct and consistent superiority as a hypnotic of Bufferin over the placebo. Calculated on the overall responses (Table II), Bufferin elicited a 41 percent "more marked" and a 206 percent "better" response than the placebo.

Calculated on the number of subjects giving each of the responses (Table III), it is evident that the patients receiving Bufferin reported a 46 percent "more marked" and a 133 percent "better" response than when the placebo was given.

Thirty-seven subjects who claimed some degree of insomnia (Table IV), but who were not receiving any hypnotic medication prior to the present study, gave overall responses after Bufferin which were 61 percent "more marked" and 250 percent "better" than after the placebo.

The data from all 102 subjects show that in subjects reporting "marked" effects, 26 responded equally to both preparations. These subjects either did not need a hypnotic, or they were uncritical. Of the 76 with a difference in response, 25 responded in favor of the placebo and 51 in favor of Bufferin. Among the subjects reporting "better" effects, 18 responded equally to both preparations, leaving 84 with a difference in response. Of these 84, only 9 responded in favor of the placebo and 75 in favor of Bufferin.

It is evident, therefore, that Bufferin was consistently superior to the placebo, in inducing sleep.

The reliability of the daily alternation and comparison method of response assay employed in this study is demonstrated by the data in Tables II, III, IV. The statistical superiority as a hypnotic of the one preparation over the other could not have occurred by accident, and can be considered as indicative of a hypnotic effect induced by Bufferin. Because Bufferin is also an analgesic, its effectiveness as a hypnotic should extend to situations where the insomnia is in part due to aches and pains caused by headache, neuralgia, rheumatism, and mild trauma. However, the data presented offer conclusive evidence that Bufferin used by us induced sleep in ordinary insomnia, and therefore can be classed as a hypnotic.

The occurrence of side effects which could be unmistakably ascribed to the medicaments were nil. This may be in part due to the fact that the dose of each preparation was given only once a day, at bedtime. Either preparation would be presumed to have left the stomach long before the next morning. In addition, the single evening dose of one to four tablets of the medication would be unlikely to raise the plasma salicylate levels to the nausea level® during the next day.7 In adults, vomiting from salicylates occurs at plasma levels averaging 28 mgms. percent, while Smith, et al.7 concluded that peak plasma levels were proportionate to the oral dose of aspirin, being 4.0 mgms. percent after 0.6 Gms. and 15 mgms. percent after 2.0 Gms. However, the virtual equality of complaints on the day following a dose of Bufferin or of the placebo indicates that the few minor complaints encountered were unrelated to the medication. There were no complaints of heartburn or indigestion during the night of the administration, from either preparation. A similar complaint response was obtained in a previous study with patients from the same institution.8

Summary

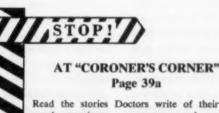
1. The hypnotic effects of Bufferin® were determined, and compared to a placebo, on 102 subjects suffering from insomnia not due to physical discomfort. Two-thirds of these subjects had been receiving some type of hypnotic medication prior to this investigation.

- 2. The effectiveness of Bufferin was determined by a day-to-day comparison with the effects of a physically indistinguishable placebo. The specially devised technique of alternating each preparation on the same patient, and measuring the degree of effectiveness by a comparative scoring of sleep induction cancelled out the placebo effect, and increased the reliability of the data.
- 3. Bufferin resulted in sedation in 65 percent of the 102 subjects. Eighteen percent reacted equally to both the medication and the placebo tablets. The remaining 17 percent gave a response in favor of the placebo.
- 4. It is concluded that Bufferin, in a dose of one to four tablets, acted as an effective hypnotic in insomnia not due to pain or other physical discomfort.

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MEDICAL TIMES

CHRONIC EAR DISEASE

PAUL B. MacCREADY, M.D. New Haven, Connecticut

he ear is the organ of hearing and when it is disturbed by infection or any other process, there is always impairment of hearing. Our concepts of the treatment of chronic ear disease have undergone tremendous changes in the last twenty years. The emphasis has been shifted to the conservation and improvement of hearing rather than merely the treatment of infection. While the widespread use of antibiotics during this period has made this shift possible, there are other equally important factors. Since there is no medical or surgical treatment at the present time which will help perception (nerve) deafness, this discussion will be limited to conditions which produce conduction (transmission) deafness.

With the widespread use of antibiotics there was almost complete elimination of the need for the mastoidectomy in acute mastoiditis and for the universally performed myringotomy. The impression among the medical profession was that chronic otitis media would disappear. Such has not been the case. In fact there seems to be an increase in chronic otitis media with its resulting conduction deafness.

One most important factor resulting in our changed approach to the treatment of ear disease was the contribution by Lempert. In 1938 he presented a new approach (endaural) for operating on the mastoid and inner ear, utiliz-

ing high magnification. For the first time it was possible to see all the minutae pictured so nicely in the anatomy books and to operate upon them without damage. The principles and technics elucidated by Lempert have been used in most of our recent surgical procedures. Stapes mobilization is increasing our knowledge of the ossicles and oval and round windows and methods of hearing. Finally has come a conception called tympanoplasty which is not a specific operation but a physiological reconstruction of the middle ear and its contents to produce a restoration of serviceable hearing.

Some knowledge of the method of hearing is essential to understand the rationale of our procedures.

Physiology of Hearing

Sound waves, unlike ocean waves, are areas of pressure and rarefaction which proceed in all directions from a vibrating body. From this it is easy to imagine how the ear drum is set into vibration by sound waves. The ossicles act as a system of levers to transmit these air vibrations from the drum to the oval window and set up vibrations in a liquid medium. The nature of the amplification from air to liquid is in the nature of twenty to one.

The oval window opens into a space or chamber called the vestibule. The vestibule besides containing the ampullary ends of the semicircular canals, also contains the beginning of the scala vestibuli duct. The sound waves pass up the scala vestibuli and around through the helicotrema back down through the scala

PRESENT DAY CONCEPTS IN TREATMENT

tympani to the round window in the middle ear. If these two scali are pictured as a U-shaped tube, it is easy to picture that when the oval window is pressed in by a sound vibration the round window must be pressed out. The cochlear duct containing the organ of Corti and its hair cells and endolymph, lies between these two scalae. It has been established that it is the vibrations set up in the basilar membrane supporting the organ of Corti which stimulate the hair cells.

It has been further established that there must be a difference in phase of the vibrations between the oval and round windows for the hearing mechanism to act efficiently. With a perforated ear drum sound waves hit the oval and round windows simultaneously and poor hearing results. The middle ear must be an air containing cavity for the proper functioning of these two windows so that patency of the

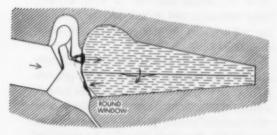


FIGURE I Schematic (after von Békésy). How sound waves are conducted to the basilar membrane supporting the organ of Corti. As the stapes push the oval window membrane in, the round window membrane must, of necessity, push out.

Eustachian tubes is another factor. The ear drum not only has the function of transmitting sound waves but it also acts as sound protection for the round window, causing this phase difference between the two windows. This function of the intact ossicles as a sound pressure transformer through the oval window plus the sound protection of the round window to produce a phase difference and hence stimulation of the inner ear has been the basis for the tremendous progress—especially the development of tympanoplasty.

Diagnosis and Types of Deafness

All our widely used tests for determining deafness are purely subjective tests. This should be emphasized again and again. The mere fact that a patient is tested on an expensive machine is no assurance that the result represents his true hearing. The test may have been done under adverse conditions as in a school or factory, and may have been given by a person without clinical judgement. It is merely an indication of what the patient wants to say he hears under those circumstances.

Tuning Forks were our chief means of differentiating types of deafness until recently. Even today we find they are more accurate than the audiometer in certain phases of testing. The disadvantage of the tuning forks was that quantitative tests were impossible and comparative results were difficult.

Every general practitioner and pediatrician should have one good tuning fork — not like those seen in most hospitals but a 512 frequency fork made of light magnesium alloy. With a little practice one can soon establish a procedure which will allow a differentiation of the two main types of deafness. Especially in children whose answers are spontaneous and accurate, the tuning fork provides a ready answer to the diagnosis of the common conduction type of deafness—often more readily than an audiometer test. Mistakes caused by the use of a watch with its high frequencies will be eliminated.

The Audiometer uses the frequencies found in tuning forks (each an octave apart) 128,

256, 512, 1024, 4096, and 8192. It provides a means of producing these sounds electrically. In keeping with scientific times the frequencies have been shifted slightly to even numbers. The three frequencies which encompass most speech (5-10-20) would be 500, 1000, 2000 — no essential difference from the above. The frequencies correspond to what we subjectively call pitch. The volume needed to make a person hear the tone corresponds to what we subjectly call loudness. It is measured in terms of decibels.

The decibel is a unit of comparison—a ratio -between two sound pressures. It is a very complex logarithmic ratio which turned out to be very suitable for measurement of the sound range covered by the human ear. For practical purposes one decibel represents the amount a sound has to be varied for a young adult to appreciate any difference. Tests by air conduction and by bone conduction must always be made because it is the comparison of the two which is necessary for diagnosis. Bone conduction represents sound vibrations transmitted to the cochlea by vibrations of the skull with the sound transmission mechanism of the middle ear by-passed. While not absolutely accurate it can be taken as representing the amount of hearing in the cochlea. Involvement of the cochlea or nerve is determined by bone conduction. In most operations to restore hearing, one can only hope to bring the hearing up to the bone conduction level. In a general way, loss of the high frequencies and decrease in bone conduction indicate a perceptive (nerve) type of deafness. Loss of the low frequencies with a relative increase in the bone conduction in relation to the air conduction indicates a conduction loss.

Types of Deafness can be diagnosed using the above mentioned principles. Of course there are many additional refinements and clinical judgement is as important here as in any field of medicine.

1. Perception (Nerve) Deafness. The most common cause of this type of deafness is old age. It has been shown this is due to a degeneration of the outer hair cells in the organ

of Corti. It might better be called middleaged deafness since it begins at about age fifty in many people. In children, a common cause (often unilateral) is some virus infectionmeasles, mumps, and influenza. Drugs cause this type of deafness at times—quinine, aspirin and some of the streptomycin series. In the cases of aspirin and quinine, tinnitus is often a guide to ear involvement. In the case of streptomycin, audiometer tests can show when to stop the drug if deafness is to be prevented. That is not true of dihydrostreptomycin, with which the deafness comes on after the drug has been stopped, possibly weeks later. This is a very widely used antibiotic and unfortunately the proprietory names of the preparations do not give a clue as to its presence. Combiotic® is widely used often without realization of the effect of dihydrostreptomycin which it contains. Neomycin® is another antibiotic which may cause deafness. And of course the congenital deafness cases with only residual hearing (no longer called deaf and dumb) belong to this group.

Of great interest in the last few years has been the effect of loud noise on the hearing. Exposure to very loud noise over short periods as a rule only causes temporary deafness. However, daily exposure to very loud noise without sufficient interval for complete recovery does cause impairment of hearing in the higher frequencies. Ultimately this extends to the lower frequencies. This type of deafness is the same as the old fashioned, boilermaker's deafness. It in no way incapacitates one for work in these noisy industries but it has become a burning subject due to the possibility of compensation.

There is no medical treatment which will improve the hearing in any of these patients with perception deafness. Hearing aids are not entirely satisfactory because of magnification of the distortion already present but nothing else is available. Lip reading should be taught to all younger patients. It gets many "by" without any hearing aid. Auditory training is hard to describe—actually it is teaching a patient those things about the use of a hearing aid and

speech which you and I would expect to get just naturally. Since nothing can be done medically, perception deafness need not be discussed further.

2. CONDUCTION DEAFNESS This is a confusing term but the one commonly used. It refers to a disturbance of the conduction mechanism and most not be confused with the terms air conduction and bone conduction. In the typical patient there is nothing wrong with the nervous element of the inner ear. When sound gets in, these patients hear without difficulty. If you yell at them they hear. A hearing aid which does nothing but increase the volume of sound is very good in this type of patient since there often is no distortion. Anything which interferes with the conduction of sound through the middle ear (even wax) can produce conduction deafness.

(a) In Children one of the commonest causes of conduction deafness is closure of the Eustachian tubes by the tonsils and adenoids. This is not purely a mechanical closure by the adenoids but is an inflammatory closure. Removal of the tonsils and adenoids will clear the condition in eighty percent of the children without further treatment (my own series). Of the remainder probably half can be cleared up by treatment of the nasopharynx with radium or x-ray since some lymphoid follicles occur in the entrance to the Eustachian tube and cannot be removed at operation. The remainder probably represents incorrect diagnosis. A loss by air conduction of fifty decibels or over usually turns out to be a nerve type of deafness temporarily obscurred by some conduction difficulty.

(b) Serous Otitis Media is caused by fluid (sterile at the start) in the middle ear. It is seen in children and in adults. Where antibiotics have been used with the relief of pain and fever but deafness persists it is usually due to retained fluid. There are other causes such as allergy. But for the most part this represents a reversible process if treated within the first six months.

(c) Otosclerosis does not depend upon infection. In fifty percent of the patients it is

inherited and constitutes the so cailed family deafness. It is produced by an over-growth of spongy type of bone in the inner ear and later the middle ear. When the oval window is involved it causes a fixation of the stapes.

(d) Chronic Discharging Ears and Perforations. Before discussing these some explanation of their development should be made.

Antibiotics and the Development of Chronic Disease of the Ear

Why have not the antibiotics cut down on chronic infections of the ear as already noted? One must consider the general picture of bacteriology. Before the antibiotic era we were dealing with very virulent infections of the ear—Hemolytic Streptococcus, Pneumococcus especially type III, Staphylococcus aureus, Hemophilus influenza B, etc. Infections were extensive and symptoms severe with high fever, pain and frequently septicemia. Even in the chronic infections Pseudomonas and Bacillus Proteus were not especially common.

Today, the acute infections we are dealing with are not of this virulent nature. The symptoms are not so marked and septicemia and other complications are not especially common. One would expect with the widespread use of antibiotics that some resistant strains of streptococci would develop which would be most virulent but we simply do not see them though there are resistant strains. And pseudomonas and Bacillus Proteus have become very prominent in chronic infections as one might expect.

Many patients are given one injection of penicillin for an acute otitis media. The pain may subside and the slight fever disappear. If the organism is a streptococcus, it is the established procedure in certain areas to give antibiotics for five days. Yet that is not enough for it takes ten days to eliminate a susceptible streptococcus.

However, the chronic ear disease which most people have in mind is "chronic discharging ears." Inadequate antibiotic therapy (but enough to relieve the pain and fever) is a definite factor but there must be others. The other

chief factor is anatomical or developmental. The majority of chronic discharging ears occur in sclerosed mastoids. This sclerosis is not the result of the chronic infection as we originally thought. Rather it represents lack of development of the mastoid with persistence of embryonic type of tissue (not resistant to infection) in the middle ear. Infections in early infancy have been considered the cause of this lack of development of the mastoid. The respiratory diseases often set up a low grade exudative tympanomastoiditis that is frequently symptomless. Of course, occasionally one sees a fully developed mastoid which later becomes completely sclerosed as the result of infection but that is not the usual occurrence. These chronic discharging ears are often characterized by periods of remission which may confuse the value of antibiotics.

Antibiotics used in the usual manner do not have any appreciable affect on chronic discharging ears though they may quiet down an acute exacerbation. The reason is that the area becomes walled off and the antibiotics would not reach the areas. Many of the bacteria are saprophytic and live on necrotic tissue as scavengers. Local application of high concentrations of the antibiotics say in powder form may bring the infection under control, technically a very difficult procedure to do.

The most common organisms found in these chronic cases are Staphylococcus aureus, Bacillus Proteus and Pseudomonas. The Streptococcus hemolytic, the Pneumococcus and the Hemophilus influenza B are found mostly in the acute infections. While sensitivity tests should be done, local treatment is apt to be more important in chronic infections. The use of ½% acetic acid every few hours to keep the cavity acid is a big help in treating infection produced by Pseudomonas and Proteus. Chloromycetin® or Neomycin as a powder instilled locally is often efficacious. Where these organisms have resulted in complications with involvement of the external ear, Furadantin® may help. For the staphylococcus the use of alcohol for irrigation or for use on tampons will supplement any antibiotic used. Where

boils in the canal have resulted, alcohol tampons moistened every two hours with 70% alcohol give more relief than any attempt to open them. With infections of the external ear and canal there is no impairment of hearing unless the ear is obstructed.

Many acute ears have apparently been cleared up by antibiotics. It is a mistake where a true surgical condition such as acute mastoiditis exists to count on this. Antibiotics should be used to supplement surgery — not replace it. So frequently these patients get repeated acute attacks—always quieted down by antibiotics, but soon the hearing does not return between attacks. Operation on these children after three or four years may show destruction of all the ossicles, and, of course, permanent loss of serviceable hearing.

Associated Symptoms

Tinnitus is a common accompanying symptom with impairment of hearing. There are many theories as to its etiology—probably its etiology varies. It is an irritative phenomenon for which there is no specific treatment and for practical purposes it always indicates some impairment of hearing. All but the occasional patient can learn to minimize it by shifting his attention.

Dizziness. True labyrinthine vertigo is always rotatory in type and must be differentiated from lightheadedness, spots in front of the eyes, etc., etc. The tendency of many practitioners is to diagnose as Menière's disease all dizziness which might be referred to the ears.

Once it is developed Menière's disease has a triad of symptoms—rotatory vertigo coming in attacks, a hearing loss which may fluctuate and tinnitus of varying intensity.

Labyrinthitis designates an inflammation within the labyrinth, and is always secondary to inflammation of the middle ear. The vertigo is continuous and severe, accompanied by nausea and vomiting, lasts days or weeks, and results in complete and permanent loss of hearing.

Vertigo may follow virus infections of the

upper respiratory tract with little or no disturbance of hearing, apparently from changes in the region of the vestibular nucleus.

Positional vertigo may occur with normal hearing and normal caloric response. In some of these cases the trouble may be in the otoliths while in some it is due to disease in the nuclear region of the brain stem.

In acoustic neuromas the vertigo is continuous as contrasted with that in Menière's disease.

The treatment for Menière's disease in case medical treatment has failed depends on whether the patient gets in the hands of a neurosurgeon or otological surgeon. The end result in both these fields is that the patient loses his hearing completely within the first year. Recently, ultrasonic waves have been used with success (the mastoid is opened and the waves applied directly to the semi-circular canal) with the preservation of hearing.

What Constitutes Chronic Disease of the Ear

Just what is included in the chronic diseases of the ear with conduction deafness? First, there is otosclerosis. This occurs in young adults (not children until after the age of puberity). It does not bear any relation to infection.

Next there are cases of chronic adhesive otitis which may have developed as previously described. These that are associated with a perforation of the drum indicate an incomplete attempt by nature to heal a pre-exiting suppurative condition. To do a tympanoplasty it is necessary to bring a suppurative condition to the stage of adhesive otitis if a successful operation is to be done. They must have a dry ear for at least a month.

Lastly there are the suppurative conditions or true chronic discharging ears. Many of these do not require operation, at least in the immediate future. Many patients with a small amount of discharge and good hearing may only need to be watched and treated very conservatively. There are three symptoms which one should watch for and their development should be an indication for immediate surgery.

1. Vertigo-labyrinth fistula.

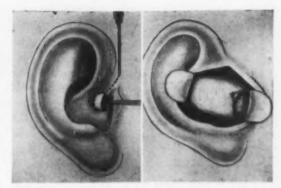


FIGURE II A. Incision for doing an Endaural Operation. B. Exposure of Mastoid by this incision. The point X is just behind the spine of Henle and directly over the mastoid antrum. After removal of the mastoid cortex and cells, the vision is directly down into the attic region and middle ear and not at an angle.



FIGURE III A FENESTRATED EAR. Note that the flap attached to the ear drum is placed over the fenestra in the lateral semicircular canal. Sound passes into the vestibule through this. The immobile stapes now is no longer part of the ossicular chain.

- 2. Deep seated pain-dural irritation.
- 3. Facial paresis.

Unfortunately we are dealing with a condition which progressively destroys the hearing. One should always consider operating while the hearing is still good in order to preserve the hearing.

How are the chronic discharging ears divided so that there may be some rationale to the type of treatment. First, there is the type with simple mucoid discharge. The perforation is central and usually somewhat anterior. This in reality is due to trouble in the Eustachian tube. Treatment must be directed toward clearing up the inflammation of this tube whether it is produced by infected adenoids, sinusitis, or allergy.

The next more severe type shows a marginal type of perforation. There is always bone necrosis in this type of patient, but this is not osteomyelitis in the sense of osteomylitis of the long bones. There is usually a purulent discharge often fetid depending on the organism involved. The ossicles and tympanic ring are primarily involved yet there may be a fistula into the mastoid bone. As seen in some older patients this sometimes results in a natural mastoidectomy and apparently it does not depend upon the presence of cholesteatoma.

The last type shows the presence of cholesteatoma which should be regarded as a non malignant tumor. These patients at least at the start shows a perforation in the pars flaccida, connecting with the epitympanum. Cholesteatoma results from ingrowing epithelium. Sometimes it can be diagnosed by x-ray. Often it cannot. Much of the time it can be seen clinically as tiny silvery particles in the discharge always with a characteristic nauseating odor. Cholesteatoma, while progressively eroding bone, in most cases is not always an indication for operation but for practical purposes it may be. Progressive loss of hearing and danger of complications is much more evident.

Operative Procedures to Improve Hearing in Otosclerotic Conduction Deafness

The Fenestration Operation was the first big advance developed to improve the hearing to a

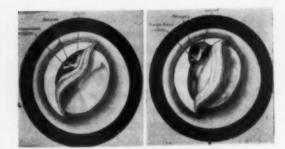


FIGURE IV STAPES MOBILIZATION. A. Incision and retraction of the drum from 12 to 6 o'clock. B. Removal of bone from posterior canal wall to provide exposure of stapes.

socially adequate level in patients with clinical otosclerosis. It was a clear cut procedure and the indications became clear cut. Patients with involvement of the cochlea (partial nerve deafness) did not get a good result or lost it fairly soon after operation. Apparently the cochlea with some involvement of its nerve element did not tolerate the trauma of operation at all well. This is an impression gathered from many operations but never stated in the literature. Patients with chronic adhesive otitis might simulate clinical otosclerosis but never got quite as good benefits from a fenestration probably because the stapes were not rigidly fixed. In clinical otosclerosis one is not dealing with an infection but since tympanoplasty has come into such prominence many chronic discharging ears have shown evidence of otosclerosis around the oval window at operation. That does not establish an etiological factor but it does extend the field of the operation.

The consensus among otologists is that in the audiometrically suitable patients the fenestration operation will produce socially adequate hearing in seventy-five percent at the end of two years. (Bellucci, in a personal communication, stated seventy percent for his results. My own series showed sixty-eight percent.) Hearing the fantastic claims of some of the otologists such as one percent for closures and around that for serous labyrinthitis, one is at a loss to explain the twenty-five percent of unsatisfactory results. In my own series systemic

conditions seemed to play a larger role than usually ascribed to them. Certainly the person who forms a tremendous callus around a fracture is more apt to have the fenestra close than older persons with frail bones. Pregnancy at the time of the operation or too soon after has been a factor in my series though many will deny this observation. A serious illness during the first few months postoperative may spoil the good effects of the operation.

There has been much discussion of the lack of permanency of the operation. The younger patients who get an excellent result seem to maintain their good hearing indefinitely though my personal observation only covers a period of thirteen years. Older patients do not maintain their improvement so well due to advancing age. However, if the good hearing only lasted five years it would be worth-while. Remember these patients want an operation because they are going through a period of stress. A good result is a miracle to them. After they have gotten married or gotten a job, etc., much of the stress disappears.

A few of the patients have some dizziness but in the well adjusted individual this is easily handled. The most annoying postoperative symptom has been aural discharge in many of the patients. This is due to incomplete epithelialization of the mastoid cavity. While skin grafting has helped it is not the complete answer. A mastoidectomy is done to provide exposure of the inner ear. A pedicle flap is placed over the fenestra and heals without incident. The aural discharge does not represent an otitis media as many uncritical practitioners are apt to designate it, but incomplete epithelialization of the mastoid cavity.

The fenestra is made in the lateral semicircular canal and into the vestibule into which the oval window opens. The incus and head of the malleus are removed and hence the ossicular chain is eliminated. Since this chain represents 20-25 decibels of hearing, the hearing even in the best patients can never be brought back completely to normal. If brought back above the 30 decibel level it represents social adequacy for all conversation.



FIGURE V MYRINGOSTAPEDIOPEXY. Application of the drum membrane to the head of the stapes. If attachment occurs a "columella" effect is obtained. In this picture, instead of the drum, a skin graft replacing the drum is attached to the stapes but the principle is the same.



FIGURE VI Complete traumatic closure of the ear canal from forceps delivery in a girl age 10 years. Reconstruction of the ear canal and drum brought the hearing from 30 decibels up to normal.

All illustrations in this article courtesy of the Connecticut State Medical Journal.

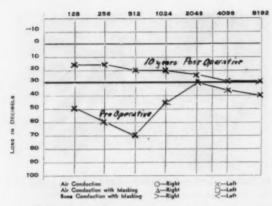


FIGURE VII Audiogram of a girl age 15 years at operation. Typical audiometric picture of otosclerosis but she had no ear canal and at operation, the drum was replaced by bone. A fenestration and reconstruction of the middle ear produced an improvement to above the serviceable level which has been maintained over 10 years.

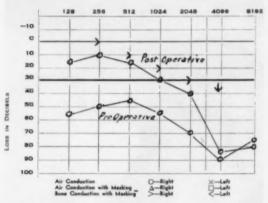


FIGURE VIII Audiogram of a man aged 55, deaf for 25 years from a mastoid operation. There is some involvement of the cochlear (two highest frequencies) which is permanent. At operation the stapes did not appear to be fixed and measures were taken to fix it to meet the conditions for a fenestration. Apparently this was accomplished and serviceable hearing has been restored.

The Stapes Mobilization operation uses a totally different principle than the fenestration operations. The ear drum is elevated from its socket in the posterior half exposing the incudostapedial joint. The stapes is then mobilized and the drum returned to its original position. It is far simpler and does not require the technical training which the fenestration operation does. There is very little after care. Since the ossicular chain is not eliminated but rather is returned to its normal state of function, theoretically, it is possible to bring the hearing up to normal.

However, the results have been disappointing. As originally described by Rosen, the rocking of the stapes by intermittent pressure on its neck produced improvement in one-third of the patients. When otologists began working on the footplate of the stapes to free it up instead of the head of the stapes, results began to improve. Immediate results began to go to fifty, sixty, and even seventy percent. However, in one-third of these patients the hearing returned to the preoperative level within four months. Of course, these patients could have a fenestration, later if necessary.

The permanency of the operation has not been determined as the procedure has been done extensively for only a very few years. Its results have been disappointing as contrasted with its original expectations.

However, there is one angle which should be stressed. This is an excellent approach for actual diagnosis of middle ear conditions, e.g. congenital fixation of the stapes and other congenital conditions — incudostapedial joint separation either from operation (which should have been known) or from infection or from trauma (severe conduction deafness following a skull fracture). These are conditions which can be cleared up or helped through this approach.

Operative Procedures to Improve Hearing in Non Otosclerotic Conduction Deafness

This includes all those patients with chronic otitis media and mastoiditis with tympanic perforations. The term tympanoplasty does not represent a single operation but rather a concept of attempting to restore the ear to a physiologically functioning organ. Its principle depends on the laws brought out under the section on physiology. The ossicular chain acts as a sound pressure transformer and the drum must also act as a sound protector for the round window to create a phase difference.

In the past, when a radical mastoidectomy was done, the ossicles were eliminated and the Eustachian tube closed. Hearing, if not way down preoperatively, dropped to 50 to 60 decibels-not serviceable hearing. Occasionally if one got a very thin membrane in the middle ear one might get a good result as far as hearing goes. Some good results might be classified as accidents. For example a radical mastoidectomy was done on a patient, age 43, over nine years ago. The Eustachian tube was very large and did not close and an air space was maintained in the middle ear. The graft in the middle ear became attached to the stapes (incus and malleus destroyed by infection) producing a columellar effect with good improvement in hearing. What was planned as a radical mastoidectomy became what we now call a tympanoplasty. When a modified mastoidectomy is done the ossicles are left in place. If diseased, the incus and malleus are removed leaving the stapes if possible. Then the skin flap is carefully pressed over the capitulum of the stapes. When it becomes attached, a columella effect is obtained and the hearing improved. The same principle is used in tympanoplasty.

The indication for tympanoplasty is not dependent upon the condition which the middle ear presents whether it has become essentially an adhesive process or whether there is a purulent secretion, polypoid inflammation or whether a cholesteatoma is present but active infection must be eliminated. There may even be ankylosis of the stapes. If the ossicles are intact, repair of the drum by a skin graft is analogous to a stapes mobilization. At the other extreme is fixation of the stapes where, after reconstruction of the middle ear to be an air containing cavity, a fenestration can be done. In between are various conditions of interruption to the ossicular chain. If the long process of the incus has been destroyed, a bone graft can be placed between what remains and the head of the stapes, etc., etc.

All of this must be preceded by complete removal of all the diseased area, whether it consists of granulations, cholesteatoma or merely adhesions. This is done under high magnification of the microscope and usually requires entering the mastoid antrum and the attic region.

Since these are all individual procedures it is impossible so far to catalog them and give statistics of what percentage of improvement can be expected. One can only expect to improve the hearing up to the bone conduction level but frequently that is enough for adequate hearing. Now all chronic ears are examined not so much from the point of view of eradicating an infection but rather to see if improvement in hearing and restoration to a service-able level can be obtained. And the results have been astoundingly good.

There is still a place for the radical mastoidectomy. However, where complications are not imminent, it is often possible to eradicate all pathological tissue with preservation of enough of the ossicles to do a tympanoplasty. The modified radical mastoidectomy can only be done if the drum is intact (perforation only in Shrapnell's region). The middle ear can then be maintained as an air containing cavity.

442 Temple Street



Clinical Evaluation of the

FRED A. PARISH, M.D., F.A.C.A.

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Although a cough is a natural reaction to any one of a variety of pathological stimuli, there are many circumstances under which it must be controlled. In response to this frequent need, the pharmacopeia of antitussives contains everything from simple home remedies such as honey, to formulations containing expectorants, antihistaminics, and narcotics. However, neither extreme of simplicity or complexity meets the criteria for an ideal antitussive: efficacy, safety, and acceptability.

The time-tested antitussives are the opiates and their derivatives. They are highly effective, but their utilization, especially for long periods, is sometimes accompanied by tolerance, habituation, and undesired side effects, namely, sensitivity and constipation. Pharmacologists have therefore attempted to produce synthetic medications possessing a cough suppressing potency comparable to that of the opiates, but free of side reactions. Close approximations to this goal have been achieved in dextromethorphan hydrobromide,† carbetapentane, citrate,‡¹ and most recently, dimethoxanate hydrochloride.

The basic pharmacology of dimethoxanate*
(beta - dimethylamino - ethoxy - ethyl-phenothiazine - 10 - carboxylate hydrochloride) has been reported in detail by Chappel and his colleagues.² They found that dimethoxanate has an antitussive action in the same range as

codeine, 1.6 mgms. of dimethoxanate being equivalent to 1.2 mgms. of codeine. Apparently, this activity is the result of a direct action on the cough center. In addition, dimethoxanate has a strong topical anesthetic effect and a musculotropic spasmolytic effect twice that of papaverine.

Chappel and his associates found that despite this agent's phenothiazine ancestry it is devoid of antihistamine activity. It is also free from anticholinergic action, and does not have any effect on the volume or acidity of the gastric juice. As indicated by measurements of rats' spontaneous activity, dimethoxanate has no sedative effect.

Acute and chronic studies in animals revealed a very low toxicity. Gilbert³ studied the compound in humans and found no significant alterations in kidney or liver function and no change in the blood picture.

A clinical evaluation was reported by Klein, who tested the preparation in sixty-five patients, using placebo controls in fifteen with severe, chronic coughs. He reported that cough suppression was achieved within an average of five minutes and lasted for four hours. He concluded that dimethoxanate is an effective, well-tolerated antitussive which calms the cough reflex without causing retention of bronchial secretions.

^{*} Cothera®, Ayerst Laboratories, 22 East 40th Street, New York City.

[†] Romilar®, Roche Laboratories, Nutley, New Jersey. ‡ Toclase®, Pfizer Laboratories, Brooklyn, New York.

Antitussive, Dimethoxanate

Patients

The subjects in this study were one hundred and thirty-nine patients of both sexes, ranging in age from one to seventy-four years. They were seen during a period which included both the hayfever and the common cold seasons. Although these patients suffered from allergic disorders and were undergoing appropriate treatment, their immediate need was for cough suppression. Coryza was the immediate complaint in eighty-nine patients and allergic rhinitis in thirty-nine others. A variety of conditions caused the coughs of the remaining eleven patients. Cough control was particularly essential for the eighteen patients with asthmatic complications, in whom a paroxysm of coughing could have precipitated an asthmatic attack.

Method

Patients were unselected in respect to age, sex or race. A double-blind test was employed in the following manner: the placebo syrups were prepared identically in all respects like the antitussive except for the exclusion of dimethoxanate. The bottles containing the antitussive and those containing the placebo syrups were numbered consecutively, with the code retained by the secretary, so that both the author and the patients were unaware of the exact nature of the contents during the time the study was in progress. Adults and adolescents were instructed to take a teaspoonful of the medication every four hours as needed; infants and small children were given one-third to three-quarters of a teaspoonful every four

hours. (Each teaspoonful of the antitussive contained 25 mgms. of dimethoxanate.) Most of the patients took the medication from three to five days.

Results

The criteria for judging the antitussive were efficacy, safety, and acceptability. By these standards, dimethoxanate was outstandingly successful in eighty-five patients (eighty-nine percent), moderately successful in eight others (eight percent) and a failure in two patients (two percent).

Rated according to efficacy, dimethoxanate afforded excellent control of the cough in ninety-three out of ninety-five patients. In the placebo group, which the code later revealed had been given to forty-four patients (thirty with coryza and fourteen with allergic rhinitis and asthmatic conditions), forty-one reported that the demulcent action of the syrup was soothing to the throat, but that they had obtained only transient relief. The other three patients in this placebo group felt that they had received excellent relief.

Rated according to safety, thirteen patients reported side effects from the antitussive. In twelve of these instances, the side effects were insignificant. Nine were slightly drowsy on the first day, one complained of a sour taste and two of nausea. The remaining patient in the antitussive group, whose allergic tendency had previously been manifested by drug idiosyncrasies, developed a papular rash which cleared up promptly after withdrawal of the medication.

(One patient in the placebo group reported having slight nausea on taking the medication.)

Rated according to acceptability, the dimethoxanate was uniformly agreeable. Patients found it quite palatable. In particular, mothers unanimously reported that it was easy to get their children to take the medicine.

Discussion

Cough and cough suppression is a universal problem. Since it is a symptom rather than a disease, ideal therapy would be investigation and treatment of the underlying pathology. Meanwhile, practical therapy demands immediate control. This realistic approach is necessary to relieve the patient and increase his willingness to carry out the more extended basic treatment: to prevent continued irritation of the bronchial and pharyngeal membranes; and to forestall serious complications such as the spread of infection from bronchi to sinuses.

Evaluated from the standpoints of efficacy, safety and acceptability, dimethoxanate was successful in ninety-eight percent of the subjects. In two percent it was a failure. One of these failures was due to inadequate control of the cough. However, the patient reported that "nothing ever helped me anyway." The other failure was due to a side reaction. Although the cough was controlled adequately, the medication had to be withdrawn because a rash developed. The patient was known to be sensitive to various other pharmaceuticals.

In this double-blind study, it was clearly demonstrated that the cough control was due primarily to the action of the active ingredient; a direct central action of dimethoxanate suppressed the cough reflex. It is probable, however, that the effective control of the cough, especially immediate relief, was promoted by the fact that the agent's topical anesthetic effect and the vehicle's demulcent action soothed the posterior pharynx. It is also possible that the mild musculotropic spasmolytic action reported in animals relaxed the bronchial musculature and thereby assisted the primary antitussive effect.

The safety of the medication was also demonstrated. The side effects were mild and transient, even in a patient with a known drug idiosyncrasy.

Summary

A group of ninety-five patients was given a new, non-narcotic antitussive agent, dimethox-anate hydrochloride, in a demulcent vehicle. The dosage was one teaspoonful (25 mgms. dimethoxanate) every four hours for adults and adolescents and proportionately less for small children and infants. The agent was therapeutically successful in ninety-eight percent of the patients. Mild side effects were reported by

twelve patients, and a drug idiosyncrasy by one. Forty-four other patients included in the double blind test and given placebo syrup, demonstrated the efficacy of the active ingred-

From this evaluation it can be concluded that dimethoxanate is an effective and safe antitussive, one that should find wide acceptance for the suppression of the unwanted cough.

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142 Main Street

It is of clinical importance to call attention to a group of paradoxical phenomena related to habitual medication.

The abstention syndrome can be defined as a group of pathological symptoms caused by sudden change in external circumstances, such as withdrawal of chronic medication, withdrawal of habit forming drugs, change of diet, or an acute oral deprivation. The withdrawal often brings about an acute neurosis or neuropsychosis during the phase of sudden renewed adaptation to new circumstances.

There are many clinical examples showing that a rapid change in food habits, or in acute cessation of some intoxication (acute disintoxication), or a change of medication may evoke new symptoms which threaten the organism. When a drug addict abruptly breaks off his abuse, the natural consequence is a disturbance of an established pharmacologic equilibrium. After the "toxic symbiosis" a new organic and mental adjustment has to be found.

The clinical importance of this will be realized through our better knowledge of habitformation, pharmacological conditioning, and the general process of adaptation and adjustment. Practically, the more medicine actually makes use of a growing arsenal of medication, the more patients will be exposed to inadvertent acute abstention or deprivation with resulting clinical implications. Sometimes, because of war, for instance, there may be no insulin or cortisone available. At another time because of an intercurrent disease, the gastrointestinal tract will not absorb the medication, as I experienced during the atropine treatment in patients with parkinsonism. At another time a drug addict may find himself in prison without the needed drug. Even in surgical emergencies some patients may be compelled to make a too quick change in food habits as I observed after acute gastrointestinal operations.

In all of these instances acute psychosomatic disturbances may occur, and can be partially explained through change in somatic adjust-

The General Abstention and Withdrawal Syndrome

JOOST A. M. MEERLOO, M.D. New York, New York

ment and as a reaction to change in mental habits.

Even in some experimental clinical intoxications a quick change of dosage may bring about the same symptoms of impaired readjustment. During general anesthesia, for instance, a gradually increasing cerebral intoxication by the narcotic occurs. Then for hours during the surgical operation an equilibrium is maintained between brain action and the narcotic. After the operation, the anesthesia is suddenly stopped: a rapid disintoxication takes place. This procedure may lead, in a few sensitive persons, to complications such as an epileptic fit, shock, or even sudden death. The moment of regaining consciousness after general anesthesia seems to be especially dangerous with its returning anxiety. Especially patients with chronic heart ailments are endangered in that phase. After prolonged narcosis with barbituric acids in the so-called hibernation cure, I have observed comparable incidents.

General anesthesia with ether is the example of a seemingly easily reversible process of intoxication. We observe gradually increasing symptoms from light to deep narcosis depending on the degree of intoxication. If we cease the administration of the drug, the same central symptoms are experienced in reversed order, except that after *prolonged* narcosis different phenomena may appear.

Here the dilemma starts.

Why has the withdrawal different results in acute and chronic use of drugs? Only a few suppositions can be mentioned here.

- During chronic intoxication a physiologic adjustment combined with an emergency adaptation mechanism takes place, which does not disappear immediately after withdrawal. A time factor plays a role here.
- 2. Chronic intoxication often results in a pathologic drug metabolism, not disappearing through withdrawal and often more noticeable during the abstention period. The chronic action of the drug may also gradually change its principal site of action, as we experience, e.g., with alcohol—the principal cortical action changes into a diencephalic action.
- 3. Chronic intoxication may make the addict more vulnerable to other noxious substances, e.g., the alcoholic usually becomes less tolerant to barbiturates. In the meantime failure of the vegetative-endocrine adaptation system may occur.

This change in drug tolerance endangers all habitual users. In barbiturism it may lead to sudden suicide.

Among the many theories about withdrawal we can distinguish between clinical, hormonal, anatomic-localizing and psychosomatic explanations. The clinical facts, however, have not yet been studied enough to verify these theories. Important for the practitioner is to keep in mind that unexpected withdrawal symptoms may occur leading to various clinical complications. They are usually not specific for one drug or medicament but may apply to all of them. However, there is a difference in incubation. For instance, the abstention delirium in alcoholism may be expected on the third day; in morphine addiction the fourth or fifth day; with barbitals we observe alarming withdrawal symptoms the seventh or eighth day (epileptic seizures).

A Survey of the Principal Drugs with Withdrawal Symptoms

- Insulin: This is clinically too well known to be mentioned further.
- Atropine: Since various patients having parkinsonism are treated with large doses of atropine, or drugs with atropine-like action, the danger of acute withdrawal has been noted especially in patients to whom high doses are given.
- Alcohol: Withdrawal and abstention in alcoholism have received the greatest amount of study. Without doubt in some heavy alcoholics sudden abstention can cause delirium tremens and acute hallucinosis. In psychotherapy we often experience that withdrawal leads to various regressive psychosomatic signs (asthma, eczema, infantile behavior).
- Barbiturates: Fever, epileptic seizures and hallucinosis often occur after acute cessation of barbiturate addiction.
- Morphine: The pains and anxieties of the morphine addict in withdrawal are too well known. Often short-lasting schizophrenia-like psychoses are observed.
- Caffein: There are even caffein addicts, who also have to go through short-lasting abstention symptoms.
- Nicotine: Some chain-smokers go through a depressive mood, diarrhea and palpitations when they stop smoking, or they go on a food binge.
- Antineuralgics: There exists an "aspirinism" that may lead to difficulties in withdrawal.
- Amphetamin: Amphetamin addiction is repeatedly observed with psychotic behavior in its wake. I myself saw a patient with epi!eptic fits during the withdrawal phase.
- Cortisone: In many chronic users of cortisone products we not only find the heightened
 danger of shock during surgery; during withdrawal they may also show acute and increased
 return of their original symptoms (arthritis,
 neurodermatitis).
- Tranquilizers: All tranquilizers can lead to habit formation. It is not only the drug with its peculiar diencephalic action but also the compulsive habits of the personality that deter-

mine the facts of addiction. The same withdrawal symptoms have been observed as, for instance, in barbiturism.

Changing Food Habits: Though this example does not strictly belong to the subject of withdrawal, clinically we often see comparable symptoms when patients are forced to acutely change their food habits, as, for instance, in surgical diets, in rigorous rice diet, during trips to foreign countries, etc. Paranoid depressions and intestinal reactions may be seen as a result of this change in old oral conditioning.

Conclusion

Abstention, withdrawal, deprivation, change of habits may cause acute stresses in the organism. The study of pathologic adaptations to drugs and medications may give new insights into the etiology of some forms of convulsion, delirium, depression, and so on. We may speak of a disrupted equilibrium or a breakdown of automatic feedback, as a result of artificial habit-formations and unphysiological intake into the organism leading to an unstable collaboration between drug and body.

Psychologically it is of importance to realize

that people don't seem to be aware by outer signs of the degree of potential adaptation they have. Abstention, starvation or sudden change in habits may provoke the hidden defects of adaptation. Withdrawal and abstention intervene with a temporary equilibrium in the organism and so provoke renewed and often pathological signs of adaptation and readjustment.

Though it is hardly possible to correlate under one heading all the phenomena here described, it is of importance to arouse the practitioner's interest in their implications.

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300 Central Park West



AN EXERCISE IN DIAGNOSIS:

The Case Reports

In addition to our regular quota of original articles and departments, this issue, and every issue, contains selected Case Reports. You will find them on pages 1464-1472. We recommend these studies as interesting and stimulating.

44 THE error in this era of mercurial emotionalism with benzedrine and barbital is the dependence on tablets for tranquility. The Russian hierarchy have been belittling and berating the people of the United States, emphasizing our addictive weaknesses to the world. They do not realize their role. Of

Suicide by Meprobamate

course the Russians are not the sole cause of this addiction. Our lack of consistent emotional maturity compatible with chronological aging is the underlying dominant factor, although taxes, in-laws, outlaws, husbands, wives, others' husbands and wives, children, neighbors, superiors, inferiors, politics, disease, debts and mortgages exert an influence.

The tablet-taking tranquil addict emphasizes the aptness of Delafield's observation made many years ago: 'The higher constellations of their association centers were squandered by their ancestors.' Equanimity, tranquility and peace of mind are found in one's self. They cannot be purchased, but the dividends accrued are Mental Peace not Mental Pieces—the cost nothing!

Reread and heed the advices contained in Osler's 'Aequanimitas and A Way of Life,' the Sermon on the Mount, the Ten Commandments. Man does not live by pills alone."

Editorial
PERK LEE DAVIS, M.D.

PERK LEE DAVIS, M. D., F. A. C. P. MARGARET SHUMWAY, M. D. DOROTHY P. BLOOM

Paoli, Pennsylvania

The mind can make a Hell of Heaven, and a Heaven of Hell. To have a long life one should worry less. To have a tranquil mind the mind should be well ordered.

Meprobamate is a habit forming drug, with side effects. It has a carbamate radical, like urethane, and it may cause bone marrow depression. Designed for giving peace of mind and tranquility, it, like other therapeutic agents, may on rare occasions become a medicinal Frankenstein. When sensitivity or toxicity develops, the "peace" as will be shown may become permanent. The seekers of solace should not be permitted its indiscriminate use. A surgical colleague reported to me he knows pediatricians who are giving problem children tranquilizing pills. A loving lullaby would do more good than a pill. My pediatrician-psychiatrist associates confirm my long held belief-the parents are the problem!!! The patient who will be reported demonstrates that a massive overdose of meprobamate, taken with suicidal intent may contribute to death by producing very serious acute liver injury.

M. M., age 31, mother of three children,

Poisoning

had Hodgkin's disease diagnosed in 1946. She responded extremely well to nitrogen mustard injected intravenously in one dose 0.4 mgm./kg. every four to six months from 1946 to 1956. X-ray therapy was given to the left axillary lymph nodes in 1948 because they had not responded to nitrogen mustard therapy. She had a complete physical and hematological appraisal each time she was seen. In 1955, her sister who was married to a U.S.N. Commander, had a nervous breakdown because her husband had been passed over for promotion to Captain. The patient who was Catholic was married to a Baptist and had three children. She became disturbed over her sister's mental disturbances and developed many attitudes of self incrimination of her own. Her Hodgkin's disease, her sister's mental breakdown, her sister's husband's failure to be promoted, she felt were due to her "sin" of marrying out of the church and having children "out of wedlock." She was seen by a psychiatrist who had her hospitalized during which she received electric shock therapy for two months. She remained under the psychiatrist's care on discharge from

the hospital. He gave her meprobamate in doses of 400 mgms., three times daily. She was checked hematologically and physically by us at more frequent intervals, mentally she was better, physically she seemed normal. Her husband, who was also in the U. S. Navv. was sent to California for a few weeks of temporary duty. He had been gone a week. She was alone with their children taking the meprobamate. We were called by the officer physician of the Naval Station where she lived. He stated she had swallowed a bottle of one hundred tablets of meprobamate. She was in coma and jaundiced. The blood ammonia was 375 micrograms/ml. The bilirubin was 58 mg./ml. The blood SGO-T was 3862 units. The alkaline phosphatase was 168 King-Armstrong units. She was sent to Philadelphia in coma, where she died twenty-four hours later. Marked liver necrosis with acute atrophy and fragmentation of liver cords with marked caryorrhexis and caryolysis were found at autopsy. Sections from all lymph nodes, spleen, etc. were negative for Hodgkin's disease except for a 1 cm. node at the carina.

Summary

A case of Hodgkin's Disease of long duration died seeking mental tranquility by taking an overdose of meprobamate with suicidal intent. The drug caused acute liver injury, resulting in jaundice, coma and death. Autopsy revealed minimal evidence of Hodgkin's Disease but maximal evidences of acute liver necrosis. Davis Paoli Medical Center

Sub-Total Gastric Resection

RICHARD F. HUCK, M.D. St. Louis, Missouri Its effect on serum cholesterol levels in individuals with peptic disease of the duodenum

Patients who have undergone total or sub-total gastric resection excrete more fat in the feces than do those individuals with an intact, normal, gastrointestinal tract. In most of the patients the increased lipid excretion was small. Occasionally excessive loss of fat occurred in patients who were having no clinical symptoms and who had little difficulty in gaining weight postoperatively.¹

According to Polak and Pontes² the mechanism producing steatorrhea is thought to be due to the fact that bile did not mix sufficiently with the food, the latter entering too rapidly into the intestine.

In view of the interest in lipid and particularly cholesterol metabolism a clinical study was undertaken to determine what effect, if any, sub-total gastric resection might have on the blood cholesterol levels of a selected group of male patients.

Procedure

A total of eighty-one patients was followed in the outpatient department of the Veterans Administration Regional Office. All were males and in good health except for findings related to peptic disease of the duodenum or the sequelae of sub-total gastric resection. Specifically no patient presented clinical evidence of thyroid dysfunction, renal disease, xanthomatosis, diabetes mellitus or liver disease. All patients were on a convalescent ulcer diet or restricted carbohydrate diet in an attempt to control the symptoms secondary to sub-total gastric resection. Single cholesterol determinations were made on all male patients studied several hours after the morning meal. Thirty of the patients studied had previously undergone sub-total gastric resection. Fifty-one had intact gastrointestinal tracts.

In our laboratory, the serum cholesterol level is determined by Bloor's method and the normal range is within 150 to 250 mgms. percent. Of the levels noted in the fifty-one patients studied who had intact gastrointestinal tracts, none had what might be termed significantly lower than normal serum cholesterol values. Only three had levels above 300 mgms, percent.

Of those patients who had undergone subtotal gastrectomy, none had significantly lower serum cholesterol levels. In addition none had cholesterol levels above 300 mgms. percent (See Charts 1 and 2).

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The statements and conclusions published by the authors are the result of their own study and do not necessarily reflect the opinion or policy of the VA.

TABLE 1 SERUM CHOLESTEROL LEVELS IN PATIENTS WITH DUO-DENAL DISEASE AND INTACT GASTROINTESTINAL TRACTS

PATIENT			IN MGS, PERCENT	m	OTHER CLINICAL BATHOLOGY
PATIENT	AGE	SEX	(Normal range 150-250)	DIET	OTHER CLINICAL PATHOLOGY
S	42	1	178	1	
M	47		213		
Н	25		123		
M	43		232		
F	30		142		
S	46		168	1	
L	40		119		
В	27		290		
C	22		147		
R	28				
M	36		195		
S	41				
M					
В	61		242		
В					
M					
R				-	
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	H M F S L B C R M S M B B M R	H 25 M 43 F 30 S 46 L 40 B 27 C 22 R 28 M 36 S 41 M 49 B 61 B 32 M 32 R 42 M 31 B 29 D 34 K 41 Z 41 D 35 H 46 F 32 R 23 O 35 P 48 A 33 W 40 Z 38 V 44 T 28 H 45 O 27 W 43 H 26 B 37 B 45 J 41 A 40 M 42 W 37 B 44 C 44 S 36 W 37 K 48 W 37	H 25 M 43 F 30 S 46 L 40 B 27 C 22 R 28 M 36 S 41 M 49 B 61 B 32 M 32 R 42 M 31 B 29 D 34 K 41 Z 41 D 35 H 46 F 32 R 23 O 35 P 48 A 33 W 40 Z 38 V 44 T 28 H 45 O 27 W 43 H 26 B 37 B 45 J 41 A 40 M 42 W 37 B 44 C 44 S 36 W 37 K 48 W 37	H 25 M 43 C 232 M 43 C 232 F 30 C 232 M 66 L 40 D 119 B 27 C 222 D 147 R 28 C 232 M 36 D 152 B 61 D 242 B 32 D 152 R 42 D 226 D 34 D 226 D 34 D 231 D 231 D 235 D 246 D 34 D 241 D 35 D 241 D 35 D 241 D 35 D 242 D 241 D 242 D 241 D 242 D 241 D 244	H 25

TABLE 2 SERUM CHOLESTEROL LEVELS IN PATIENTS WITH ULCER DIS-EASE AND WHO HAVE UNDERGONE SUB-TOTAL GASTRECTOMY

PATIENT	AGE	SEX	SERUM CHOLESTEROL LEVELS IN MGS, PERCENT (Normal range 150-250)	DIET	OTHER CLINICAL PATHOLOGY
L	28		229	1	1
C	47		226		
J	34		246		
W	46		184	1	
T	42		232	E	
R	34		125	DIET	E
A	30		219		SYNDROME
R	47		213	PROTEIN	O.
W	50		219	10	Z
M	39	1	210)K	5
C	45	83	290		9
L	44	MALES	184	нісн	Z
C	62	×	184		DUMPING
T	25	-1	184	FAT,	00
L	42	ALL	252	F	
W	28	1	201		SHOWED
C	42		232	нісн	*C
F	39		226		NS.
S	47		298	ON	7
O	42		239		A.
N	33		184	ALL	Ī
N	27		168	Ī	
S	39		195		
W	51		_		
Н	49	1	195		

Comment

Before trying to interpret the results it is important to state the variations noted normally in the serum cholesterol. Serial fluctuations of serum cholesterol levels have been well studied in normal individuals.³ Watkin⁴ and co-workers accomplished a fundamental study to demonstrate biological variations in serum lipid measurements among a large unselected group of patients. They report an average biological deviation of plus or minus 13 mgms. percent. Riven⁵ indicated biological fluctuation to be somewhat higher. All this indicates that a fall or rise of between 60 to 100 mgms. percent cholesterol in a given study should only be considered significant.

Stanley and Cheng noted that two-thirds to four-fifths of the total available cholesterol was absorbed in three subjects studied.

In the light of the above findings, it is evi-

dent from our data that sub-total gastric resection does not significantly lower the serum cholesterol level in otherwise clinically normal males subsisting on a high protein, relatively high fat diet. None of the determinations deviating from the acceptable normal range was considered to be of a significant degree. In a normal individual sources of serum cholesterol other than absorption are apparent. With the possible exception of mature nerve tissue, every animal tissue seems capable of using the labeled acetate radical to form cholesterol.

Conclusion

Of the fifty-one patients with intact gastrointestinal tracts studied, three proved on one occasion at least to have cholesterol levels above 300 mgms. percent. None of the thirty patients with sub-total gastric resections studied showed the blood cholesterol levels deviating significantly from normal. The above findings are probably significant only with regard to the premise that sub-total gastric resection does not lower serum blood cholesterol. It would be of some value to follow the serum cholesterol levels in a large series of patients who have undergone gastric resection to observe what changes, if any, would occur over an interval of several years.

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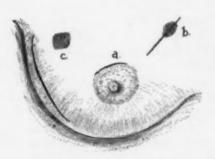
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CLINI-CLIPPING

Incisions for Removal of Benign Tumors



- a. Curved Areola.
- b. Radical.
- c. Curved Marginal (Warren).

THE TIRED PATIENT

ELDON W. SNOW, M.D.
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he number of patients who seek help from the physician for the chronic fatigue syndrome, or the so-called tension anxiety syndrome, is legion. The chief complaints of these patients are undue fatigability, mild depression, and chronic constipation. Many complain of joint aches and stiffness, but show no evidence of organic changes. Objective signs, such as dry skin, brittle nails, facial puffiness, muscle tenderness, and menstrual disturbances are seen frequently. Many types of treatment, ranging from thyroid extract, the amphetamines, barbiturates to tranquilizers have been used on these patients. From the standpoint of the physician, the results with any of these have been most unsatisfactory.

It has been customary for many years to consider these patients to be hypothyroid, and almost invariably they have been treated with thyroid extract. In the patient who does have a significant degree of thyroid deficiency this form of therapy will produce strikingly beneficial results. It is unfortunate, however, that only a very small percentage falls into this category. The great majority are either euthyroid or only borderline hypothyroid. In these patients, thyroid therapy may produce some small degree of improvement, but the major complaints, "tiredness" and "irritability" are rarely improved

significantly. We encounter many patients who have taken thyroid for years, but still complain that they do not have enough energy to last out the day. Yet, they stated that if they do not take thyroid regularly they feel even worse.

That the underlying cause of the symptoms is not primarily hypothyroidism is suggested by three factors: these symptoms are frequently presented by patients with normal BMR, they are not seen invariably in patients with a low BMR, and administration of thyroid extract usually does not correct the situation.

It has been suggested recently that these patients fall into a category, variously designated "metabolic insufficiency;" "nonmyxedematous or euthyroid hypometabolism," or "submyxedematous hypothyroidism." 1, 2, 2

It has been pointed out that if the physiologic abnormality of hypothyroidism is present in these patients, this may be due to an inability of the peripheral tissues to convert thyroxin to an active derivative, probably triiodothyronine. Recently, the introduction of liothyronine (triiodothyronine) raised our hopes that better results would be seen in patients who had responded poorly to thyroid extract therapy. However, our results with this new drug have been disappointing and have reinforced our belief that thyroid deficiency is not the underlying

state in most instances. Ingbar and Freinkel¹ have emphasized the potential cardiac hazards surrounding the use of the thyroid hormone, the possibility of developing profound psychological dependence on the drug, as well as the ill-defined effects of prolonged thyroid suppression. All these factors suggest restraint in the prolonged use of thyroid therapy in patients with this ill-defined condition until the entity, if such persists, rests upon firmer physiological grounds.

Adrenocortical insufficiency as well as vitamin deficiency have each been postulated as being important etiological factors, but neither corticosteroid nor vitamin therapy have been of significant benefit. Drugs which have a direct stimulating action on the central nervous system, such as amphetamines, methylphenidate, and the piperadols have been used widely. All have marked side effects which are frequently very distressing to the patient. With the use of these compounds, the physician frequently tends to judge their effectiveness more by the side effects than by improvement in the attitude and mental outlook in the patient.

It has been reported that a new chemotherapeutic agent, deanol (2-dimethylaminoethanol)* is useful in the fatigue syndrome and in anxiety tension states. We have been much intrigued by the possibility that this drug might be of value in our patients. This is an account of our experiences with deanol therapy in fifty patients. In this limited series, we have found this agent to be of value and to deserve continued attention.

Pharmacology of Deanol

Evidence that the body converts deanol (2-dimethylaminoethanol) to choline by methylation and that the acetylation of deanol and choline by choline acetylase is equally rapid has been reviewed recently.^{4, 5} C. C. Pfeiffer, et al., have reported biochemical and pharmacologic studies which indicate deanol to be an intracellular precursor of acetylcholine.⁶ Studies

with C-14, labeled deanol, showed the radioactive carbon to have crossed the blood-brain barrier and entered the brain and intracellular conversion of deanol to acetylcholine.⁷ Animal experiments have disclosed an action on the electrical activity of the brain and upon behavior.⁸⁻¹¹ The toxicity of deanol is reported as being very low.¹²⁻¹⁴

Methods and Materials

There were fifty patients in the study, nine males and forty-one females. The age range were 32-62, (mean, 47) for males, and 6-52 years (mean, 31) for females. The patients were unselected; all patients whose complaints were those of chronic fatigue states, neurasthenia, mild depression, chronic headache, or migraine and in whom no organic basis for the difficulty could be detected on careful examination were included in this study. Six children, ages six to sixteen, having significant behavior problems at home and in school were also treated. The major complaints of the patients were: fatigability with anxiety states, thirty-two patients; headache with or without migraine, seven; behavior problems in children, six; hypothyroidism with narcolepsy, depression following surgical castration because of endometriosis or thyroidectomy, depression following fatigue and premenstrual tension, anxiety with rheumatoid arthritis, all 1 patient each. Five patients had anxiety tension syndrome associated with menopause, two had ulcer-like symptoms but this could not be confirmed by laboratory or x-ray examination. Fatigue and anxiety tension were the major presenting complaints, and many of the patients complained of tension-type headaches. None of the fifty patients had responded satisfactorily to previous therapy in which thyroid extract had been used as seemed indicated. Vitamin supplements, amphetamines, ataractics when indicated, ergot and caffein combinations in the migraine and headache patients, and estrogens in the menopausal patients have also been used. Deanol was first given in a dosage of 25 mgms. b.i.d., later we found that 25 to 50 mgms. (1 to 2 tablets) once daily to be a more satisfactory method

^{*}Deaner®, Riker Laboratories, Inc., Northridge, California.

of administration. In most of the patients previous therapeutic measures were continued when indicated, deanol only being added to the regimen. In only one patient was it necessary to increase the daily dose to 100 mgms.; in one patient, the dose was increased to 75 mgms. daily, in the remainder 50 mgms. daily was adequate.

Results

For the entire series the results were considered to be good to excellent in eighty-two percent, fair in four percent and poor in fourteen percent. All six children with anxiety tension states associated with behavior problems in school responded excellently. These had received amphetamines previously, with poor response. This is in accord with the data reported by other investigators. 15-17 In five patients who had anxiety-tension associated with menopause, results were good in three and poor in two. The patient with depression following surgical castration for endometriosis responded excellently, as did the patient with hypothyroidism and narcolepsy. Results were poor in 1 patient with both premenstrual tension and migraine who claimed that Deaner® aggravated the tension. This patient had previously responded poorly to thyroid extract, Cafergot, Valoctin, and most other medications, but felt better when oral diuretic therapy was instituted. Only two patients stopped the drug because of side actions. One with anxiety tension stopped the drug because it made her feel "dizzy;" the other (psychoneurotic) claimed that after taking it for only four days, deanol produced a rash on her face and fluid accumulation similar to that previously produced by cortisone. Two other patients thought that the drug made them more dizzy at first but that this wore off as the drug was continued; in these, clinical results were fair in one and good in the other. Thus, side actions were no problem in these usually difficult patients. There was no suggestion of toxic reaction to any patient seen.

Many of the patients reported that deanol had helped them more than had any medication previously taken. It was noteworthy that patients without frank thyroid insufficiency, who had not responded well to treatment with thyroid extract, reported good response when Deaner was added. The eighty-two percent of patients who showed good to excellent response invariably reported that they were less tired, less nervous, less depressed and slept better. In the two patients who complained of gastrointestinal symptoms suggesting ulcer, but in whom ulcer was not found, the vague symptoms responded well to treatment. The clinical response in the six children with anxiety tension and who presented also serious behavior problems in school was particularly gratifying. They all reported that they felt less tired. Three improved greatly in their social adjustment behavior and school work. The fourth showed some improvement in behavior and should continue to improve.

Typical Case Reports

CASE ONE. Mrs. A. W., white female, married, age 48. Complaints: headaches for years, once twice a week, tired all the time, spells of depression, very nervous, can't sleep, hot flashes. Past History: migraine most of life, total hysterectomy two years previous for fibroids. Examination: T 98, P 64, B.P. 122/80, heart and lungs normal, abdomen and pelvic normal. Urine negative, Hb. 14.8 Gm., R 5.20, W 5,200, P-60, L-40. Previous treatment, (over a period of years by us): thyroid, Cytomel,® tranquilizers, Cafergot, Bellergal. Deanol started 50 mgms. daily, two months later reported she was able to hold a clerk job during the Christmas season, in addition to her housework, which she had not been able to do previously. Only an occasional mild headache, sleeps better, no depression, and not nervous. Has stopped all other medication except an occasional hormone tablet, wants to continue on deanol.

CASE Two. Mrs. B. A., white female, married, age 39. Treated during the past six years by us and a Medical group in Los Angeles for complaints of fatigue, nervousness, short of breath, precordial pain (not aggravated by exertion), irregular menstrual periods. *Physical Ex-*

amination: T 98, P 72, BP 124/76, heart and lungs normal, abdomen and pelvic normal. Laboratory: Urine neg. Hb. 12.2 Gm., R 4.40, W 5,200, P-52, L-46, M-2. Chest x-ray neg. PBI 5.75 gamma %, I 131 uptake on three occasions varied from 16.9 to 23% (normal). Previous treatment this patient had received brucellosis antigen, and chloramphenicol in 1951 for the same complaints, since has had estrogens, tranquilizers, amphetamine, testosterone without any results. Started on deanol 25 mgms. daily, increased to 50 mgms. daily in two weeks. Three months later patient reports that she is not nearly as nervous, has much more pep and is able to do her housework (which she could not do before), sleeps better, is not short of breath, and has no more chest pain. She states she has felt better the past three months than at any time in the past ten years.

CASE THREE. Mrs. A. E. W., white female, married, age 35. Complaints: tired all the time, fatigue, very nervous spells of depression, can't sleep, poor appetite and can't gain weight, all symptoms chronic and present for several years. Past History: Tbc. at 14 yrs. of age, arrested after 9 mos. hosp. care, appendectomy at 20 yrs. of age, hysterectomy bilateral oophorectomy for severe endometriosis at age 31, one pregnancy 10 yrs. ago. Physical Examination: T 98.2, P 82, BP 112/76, heart and lungs normal, abdomen and pelvic normal except for old scars, wt. 108 lbs. Laboratory: Hb. 13.5 Gm., R 5.00, W 10,250, P-70, L-27, M-3. Urine neg. Chest X-ray neg. Previous treatment past 3 yrs., thyroid, cytomel, Dexamyl®, estrogens and testosterone, tranquilizers. Started on deanol 25 mgms. daily, increased to 50 mgms. daily in two weeks. Reports two months later not as nervous, has gone back to work, sleeps better, able to get work done at home as well as work eight hrs. a day, depression is gone. Patient is continuing on 50 mgms, deanol daily and has stopped all other medication.

CASE FOUR. J. E., white female, single, age 17. Complaints: periods irregular, 21 to 30 days heavy flow, constipation, tired all the time, can't get school work done, sleepy most of

the time. Past History: negative. Physical Examination: T 98.6, P 72, BP 104/80, heart and lungs normal, abdomen normal, pelvic uterus small, adenexia normal. Laboratory: Urine neg. Hb. 15 Gm., R 4.84, W 9,800, P-70, L-30, BMR-23 started on cytomel 25 mcg. daily, increased to 50 mcg. daily in 3 weeks with some general improvement but still tired and sleepy all the time. Started on deanol 50 mgm. daily and increased to 75 mgm. daily in three weeks. Patient reports in two months that she now feels fine, can get her school work done, is not sleepy all the time. Constipation better. She thinks periods are more reg. but too short a time to tell. She has stopped cytomel one month previously on her own, but has continued to feel fine. She was advised to continue on some cytomel (25 mcg.) daily and 50 mgm. deanol daily.

Discussion

The high percentage of good to excellent response is gratifying. A simple dose schedule, form of therapy very acceptable to the paand virtual absence of side actions makes this tient. We are greatly impressed by the good response of a high percentage of our patients, who had not responded satisfactorily to other measures. Some of these patients have been "problem patients" for years, and we had almost abandoned hope that we could ever again bring them to feel energetic. We are not able to offer any basis for selection of patients suitable for therapy with Deaner, but have been fortunate in that most of these fifty patients reported that deanol was of value. We have not encountered any problems from the use of deanol with other indicated drugs. In one specific respect, deanol has been very useful, as many patients who previously would not stop taking thyroid have reported that they have either stopped taking thyroid altogether, or have markedly reduced the daily dose of thyroid. We have been particularly pleased with the good response in children with anxietytension who previously presented behavior and social adjustment problems at home or in school.

Conclusion

- 1. A new antidepressant drug, Deaner® (2-dimethylaminoethanol) has been used in fifty patients with chronic fatigue and anxietytension syndromes.
- Results were good to excellent in eightytwo percent, fair in four percent, and poor in fourteen percent.
 - 3. Toxic reactions were not encountered

and side actions were mild.

4. Deaner is a useful agent in the treatment of chronic fatigue states, mild depressions, chronic headache, neurasthenia, and behavior problems in children. It is compatible with other drugs in our patients' therapeutic regimens.

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A NEW HORIZON .

Industrial Psychiatry

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he history of the world is made up of the rise and fall of empires. The path of history is strewn with the wrecks of what were once proud nations and dynasties. Men dig in the ruins of ancient Chaldea to find evidences of a great empire. The pyramids of Egypt are stark reminders of one of the most colorful periods in the history of the world. The hills of Greece are dotted with the ruins of the Parthenon and the Acropolis - grim reminders of one of many unsuccessful efforts to crush and destroy this proud people. The Colosseum of Rome and the paved highways of Italy are reminders of ancient dictators called Caesars who flourished and fell while others rose to glory and prominence on the basis of their ruins. The crumbling castles of Europe remind us of a feudal system of small kingdoms that once thrived amid pomp and ceremony. In more modern times, evidences are as plentiful: the colossal buildings of Russia attest to a czarist regime that crumbled under the heels of Marx, Lenin and Trotsky, and the Eagle's Nest high on a Bavarian mountain at Berchtesgaden, of that paranoid genius Adolph Hitler.

Should our present American culture cease to be, whatever generation and whatever people then inhabit this earth will find one reminder of our civilization when they dig in our ruins which will be the outstanding example to them of what our present culture exemplifies. That will be the industrial organizations and the industrial giants and factories we know today. Physically, the growth of American industry has been fabulous. And finally today, along with this physical growth, management and stockholders are becoming more aware of their psychological and moral responsibilities toward their individual employees and their families.

Perhaps it is time for man to concentrate more of his attention on self rather than on things, and to recognize that man's inventive genius has far outrun his own sense of social and moral responsibility. On more direct terms, we need to look more to men and less to machines. We need to direct our thoughts and energies more toward the men that operate our industrial plants — their motivations, their drives, their problems, needs and their fears. Industrial managers are more and more recognizing their obligation in this area and are recognizing the economic necessity of such action. For example, it has been known for some time that ninety-five percent of accidents

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in a plant are caused by five percent of people. If some way could be found to discover and eliminate this five percent prior to employment, a marked saving in actual cash outlay as well as in insurance premiums could be achieved. If this five percent could be placed in jobs where there is little likelihood of accidents occurring, a great saving could be achieved. If this group could be treated for their personality problems the rate of accidents could be reduced. When one recognizes that alcoholism costs American industry over one billion dollars a year in lost production, one can begin to see the possibilities for psychiatry to be of help to industry. Finally, it has been estimated that over eighty percent of job dismissals are due to difficulty in interpersonal relationship and less than twenty percent is due to inability to perform the duties of the job. These problems have been met in some industrial organizations with a subsequent decrease in insurance rates and man hours lost on the job. A business will spend many thousands of dollars investigating a new machine that it anticipates using, but little or nothing investigating the man who will operate it. A cursory interview by a personnel manager or a few so-called psychological tests are all that are used at best. Many of these tests have never been adequately evaluated by competent professionals and may be misleadingly dangerous in that they instill a false sense of security in the attitude of employment managers.

*What Can Psychiatry Offer to Industry?

Is the cost worth the result? Can something practical be offered or is it all theory? How will such a project be accepted by everyone from the board of directors through the management and supervisory levels down to the workers on the job? What is the attitude of labor unions toward such an undertaking? These are only a few of the many questions that are being asked today with regard to the subject under consideration.

The functions of a psychiatrist in industry have been well set forth by L. E. Himler in an article published in the *Journal of the*

Michigan State Medical Society, January 1950. They are briefly as follows:

- 1. Appraisal of those factors in the individuals personality which bear directly on his fitness or unfitness for work. This constitutes a part of both the employment interviewer's and the physician's pre-placement examination procedure.
- Recognition of psychiatric conditions in their earliest manifestations, not only in applicants for work but also as these may make their appearance at any time after employment. Here are included psychoses, neuroses, alcoholism, epilepsy, and various personality disorders.
- Evaluation of psychiatric factors in post traumatic conditions covered by workmen's compensation laws.
- Determination of the degree of employability or re-employability in post-psychotic states—that is recovery from major mental disorders.
- Consultations when and where regarding the placement, transfer, promotion, or progress of individuals possessing valuable skills but who exhibit potentially troublesome personality handicaps or deviations in their interpersonal relationships.
- Assessment of emotional factors in accidents and absenteeism.
- Application of direct psychotherapy in selected individual cases as may be practical within the limitations of the industrial setting.

As one can easily see this is an overwhelming task and one that requires considerable effort on the part of any psychiatrist who is interested in this type of work and service. There is much difference in opinion as to where and how the psychiatrist can best serve an industrial organization. Certainly, the physician's effort will be needed differently in different companies. His knowledge of human interpersonal relationships can be utilized in many areas, yet, as a physician, he must occupy a unique position. In some companies he is part of the medical department and functions purely as another member of the healing team.

While this area and function is important, to be sure, it is limited in its scope and it appears that the talents of a highly trained specialist are not being utilized to maximum efficiency. His abilities can be better and more efficiently used in a broader area as a teacher to share his knowledge with industrial physicians, nurses, executives, personnel workers and supervisors. His training can be valuable in solving and preventing problems involving human relations. He can educate and constantly point out the important factors necessary for good mental health and that the consideration of each worker as an individual personality and not as just "a hand" is a basic necessity for good plant morale. A recent survey revealed that the majority of employees place "help with personal problems" and "understanding of employers" at the top of their list of what they want from a job while "wages" placed fifth. The psychiatrist can point out to management the importance of seeking and recognizing the source of satisfaction or dissatisfaction in the worker and that the workers want from their jobs security, job satisfaction, individual recognition, opportunity for advancement and good group identification. I am not suggesting that a psychiatrist is capable of managing or operating an industrial organization. But while a male obstetrician is not capable of having a baby, he can help a female patient through her delivery and advise her. One of the most important values a psychiatrist has to industry is in the prevention of emotional upsets or in a situation which might precipitate them. He is able to advise management on the one hand and the workers on the other, and because of his unique position as a physician he is able to avoid becoming personally involved in the situation, whatever it may be.

*What Are the Qualifications of a Good Industrial Psychiatrist?

He must be warm and personable and be accepted by all parties as an individual. He certainly must have a good sense of humor and be able to take the teasing about his profession. He must maintain his professional

dignity and decorum but if he demands respect rather than earns it his efforts will be doomed to fail. He must be able to understand the language of all the people and be able to make them understand his language. I fear that at times psychiatrists suffer from a disease of wordiness and perhaps we cover our ignorance with pompous terms. Id, ego, castration fears, etc., will not impress a truck driver or a hosiery knitter but rather will alienate him and increase his suspiciousness of the company "head shrinker." The psychiatrist must be flexible and able to confer graciously with all groups in a plant. He must be mature and tolerant and not cold or aloof.

From a professional standpoint he should be well trained clinically and in particular should understand and appreciate group dynamics. A knowledge of neurology is also necessary as he will often be consulted about traumatic problems. Teaching ability and experience and the ability to speak clearly and easily are necessary attributes of the industrial psychiatrist. He should know and understand something about the various types of businesses and labor organizations—their structure and their function.

*How Does an Industrial Psychiatrist Begin His Work?

At first, group conferences with foreman, supervisors and nurses are valuable. In such meetings one can explain to these groups what the psychiatrist can do, when he will be available, how to refer individual problems and perhaps some simpler counselling techniques. Regular meetings with the plant physician are helpful in order to help him understand basic psychiatric principles and practices. It has been estimated that seventy-five percent of the emotional problems encountered in industry can be handled by the well-trained industrial physician with some understanding of psychiatry. There are two important areas where the talents of a well trained psychiatrist are helpful. In the personnel department, the psychiatrist can advise prior to the employment of individuals. As previously mentioned, the psychiatrist with his understanding of unconscious

motivations is best able to predict how a person will react in a given situation and what his capabilities and potentialities are. This to me is an important area. If a business is going to employ a bright young college graduate with the idea that in twenty years he will be a vice-president, the company has a great investment at stake. If psychiatry can discover hidden insecurities, phobias, etc., then the bright young man can be helped to understand and overcome these before they are clinically apparent, or at times such an individual may just not be a good employment risk. Another important area is in the routine psychiatric evaluation of executives. Many business organizations are now recognizing the value of such an examination. If it is included as part of an annual physical along with the chest x-ray and electrocardiographic examination, it will be accepted by the individuals. Certainly the incidence of psychiatric disorders and psychosomatic ills would warrant such an investigation. Too often the executives have no one with whom they can talk and in whom they can confide. They are fearful of discussing problems with those "under" them in the industrial organization. An occasional opportunity to "blow off steam" is valuable when they know what they say will be kept confidential. The psychiatrist is in an excellent position to advise and counsel executives in regard to what some regard as the main faults in human relations in industry: by-passing, over-ruling and undercutting without informing or consulting the individuals involved. The resentment and the loss of face caused by such may bring about much damage to morale in any business. The decisions made by executives, the timing of such decisions and the manner in which they are communicated to others is extremely important from the standpoint of human relationships.

Felix of the National Institute of Mental Health has pointed out that the qualities which make for a good supervisor are the abilities, 1) recognize and appreciate the employees personal worth and work, 2) provide opportunity for advancement, 3) give encouragement and advice on how to proceed when there are special difficulties and, 4) represent the interest of the employees to management. Many supervisors are aware of these responsibilities, but are unable to put them into practice because of their own anxieties. With group discussions and minimal psychiatric treatment, they can be aided in meeting these responsibilities.

Treatment, when indicated, requires the use of simpler psychotherapeutic methods. There is not sufficient time for prolonged insight—giving psychotherapy. If such is required, the patient should be referred to a psychiatrist in practice in the area or to the local mental hygiene clinic. One must appreciate the importance of preventive psychiatry and of psychiatric first-aid in an industrial setting.

Is all of this of benefit to management? Boards of directors are notoriously hardhearted and want to know from an economic standpoint if a psychiatrist is a valuable addition to a business organization. Let us examine past experiences where this approach has been tried. Recently at a psychiatric clinic and program which the author operates at Hanes Hosiery Mills Company in Winston-Salem, North Carolina, an evaluation of the results of the program was done. Hanes is the largest manufacturer of seamless ladies hose in the world with a payroll of over four thousand employees, seventy-five percent of whom are women. Forty patients selected at random were checked by supervisors and superintendents before and after being seen by the author. These patients had been seen for an average of five interviews-from one to fifteen. Of this group of forty, after treatment the quality of production increased twenty percent and the quantity of production increased 6.2 percent. This meant an increase in the take home pay of these workers and a decrease in the production costs of the company. This last fact has been borne out in the experience of other companies who have utilized the services of psychiatrists. Many major companies now have either full time or part time psychiatrists in their organizations. However, the demand still exceeds the supply

as it does in all branches of psychiatry. If we can modify our thinking from completely therapeutic to partial preventive, our talents and training can be more effectively utilized by industry. The opportunities for the prevention of psychiatric disorders are unequaled. The opportunities for understanding and study of group dynamics is available easily and in large numbers. And easily, the opportunities for research are great, both clinical research and basic research. For example, the author has recently started a study utilizing trifluoperazine, a new antipsychotic drug, which seems to hold great promise in the growing field of psychodynamic drugs. We have discovered that individuals who are paid on a piece-work or production basis have not had a decrease in their pay while on this drug. This might indicate

that they are not slowed in their reflexes and timing and that the sedative effect is minimal. A definite statement about this must await further studies.

In summary, it can be said that the field of industrial psychiatry offers a great challenge to psychiatry in general. The opportunities are unlimited and the work is rewarding. It is my feeling that we as psychiatrists are not adequately meeting our obligations in this particular area. Granted that the demands are great and varied; yet, here is an area of service where true preventive medicine can be practical and the principles of human understanding taught and utilized. Here is where "a little bit goes a long ways."

Private Diagnostic Clinic



WANT A CHUCKLE? SEE "OFF THE RECORD . . ."

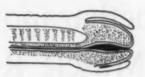
Share a light moment or two with readers who have contributed stories of humorous or unusual happenings in their practice. Pages 25a and 29a.

An illustrated review of the procedure for external urethral meatotomy

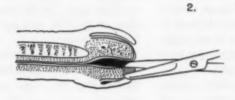
External Urethral Meatotomy

- 1 A stenotic urethral meatus is shown.
- 2. The meatus is cut along the ventral border.
- A suture is taken through both mucous membrane and skin and the edges are approximated.
- 4. The completed meatotomy. Vaseline is applied after each voiding to prevent adhesion.

From "Atlas of Genito-Urinary Surgery" by Philip R. Roen, M.D., F.A.C.S. (Appleton-Century-Crofts, Inc., New York, New York)















Chlormethazanone as a Skeletal Muscle Relaxant

During the past five to ten years the combined efforts of chemical and pharmacological research have given to the medical profession several drugs of value as skeletal muscle relaxants. They have been classified as meprobamates, zoxazolamines, and methocarbamols. Most recently, investigation has been directed toward the metathiazanones.

The research divisions of Winthrop Laboratories has synthesized chlormethazanone* which has the chemical formula of: 2-(-4-chlorophenyl) - 3 - methyl - metathiazanone-1-dioxide with the structural formula

Chlormethazanone was extensively studied in laboratory animals and found to be a spinal cord depressant, and a centrally acting skeletal muscle relaxant. Compared with meprobamate, it is a more potent anticonvulsant against strychnine and maximal electroshock seizures. Chlormethazanone was found to have a longer duration of activity but is equipotent with both meprobamate and zoxazolamine. In the "spinal cat," chlormethazanone was shown to be more potent than meprobamate in blocking the crossed extensor reflex (polysynoptic) but less potent than zoxazolamine. The overt be-

havior effects produced in the monkey, in general, resemble those of meprobamate. The oral LD₅₀ was 1380 ± 198 mg. 1 kg. at seven days in albino mice. In the laboratory animals, no effect on the liver, bone marrow, or renal function was found.¹

Because of these excellent pharmacological results and since preliminary clinical trials showed that this agent brought about very noticeable relief from the stiffness associated with rheumatoid and osteoarthritic conditions; and because it appeared to have a very low toxicity, it was decided that chlormethazanone was safe for broad clinical trial in selected patients.

Method of Study

Patients were selected on the basis of having some form of skeletal muscle spasm and were roughly classified into four groups:

Group A-Arthritis (all types)

Group B—Anterior Chest Wall Syndrome Group C—Hematogenous Osteomyelitis of the Dorsal Spine

Group D—Chronic Bursitis or the "Neck-Shoulder-Arm Syndrome"

As reported by Gesler and Surrey³ chlor-

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^{*}Material for this study was generously furnished by the Medical Research Department, Winthrop Laboratories and supplied as WIN 4692 released as Trancopal®.

methazanone should be an effective skeletal muscle relaxant, regardless of the disease or condition associated. The patients were selected from the author's private patients seen in his office and in the hospital, and patients seen on the Inpatient Service of the Roger Williams General Hospital, Providence, R. I. They were all adults, ranging in age from twenty-eight years to seventy-eight years.

Dosage was uniform initially, in the form of a 100 mgms. "Caplet" and given three times a day, at a six-hour interval. With symptomatic relief, the dose was reduced to b.i.d. or once a day. All patients, when possible, had a preliminary laboratory survey, C.B.C., urine analysis, Blood Sugar, B.U.N., and Icterus Index tests were done. These were repeated in two to four weeks time. Patients were cautioned to communicate with me immediately upon the appearance of any unusual symptoms or any skin rash.

Clinical Experience

Findings and results are summarized in Table I. Total number cases treated in all groups was fifty-eight. It is extremely difficult to evaluate instances of musculoskeletal spasm. Since muscle spasm is a body protective mechanism—a splinting action—one would think that treatment would be useless. Yet, because of continued spasm and associated pain, many patients do not use the injured member and if prolonged, some disuse atrophy may result; also many neurologic and nerve tension conditions will cause muscle spasm, esp. the muscles in the occipital region.

By and large, the greatest number of cases involving severe muscle spasm was found in the Group A. These were all patients suffering from various types of arthritic conditions—hypertrophic, osteoarthritic, and spondylitis. These patients were handicapped by stiffness and limitation of motion from muscle spasm. Pain had been relieved by the use of aspirin, or steroids, or salicylate compounds, but after sitting for some time or reclining they had difficulty in moving about because of stiffness. Chlormethazanone was of great help. The pa-

TABLE I CLINICAL EXPERIENCE

Group	A	В	C	D
Good	15	10	0	7
Fair	10	5	1	2
Poor	6	2	0	0
Total	31	17	1	9

tients were able to move with ease and could perform their daily tasks with more comfort. The patients having rheumatoid arthritis felt better, but if the inflamation and pain returned, chlormethazanone was not of any help in relief of pain or inflamation.

With increased consciousness of heart disease on the part of patients today, the number of cases of Anterior Chest Wall Syndrome (Group B) seen in office and hospital practice, is increasing each year. The condition as elaborated by Prinzmetal⁴ is obscure as to its pathogenesis and the physician must treat it effectively and promptly to avoid further fear of heart disease by his patient. Many of the instances of this syndrome are the result of muscle spasm. Chlormethazanone was found to be of help in these patients. Complete relief was experienced in over fifty percent of the patients in this series. The two who had poor results had no muscle spasm, but were suffering from an inflammation of the sternochondral joints. The administration of steroids helped these two patients.

The one patient in Group C was a very unusual individual who had a hematogenous osteomyelitis of the dorsal spine with partial desruction of the bodies of three vertebrae. The condition followed a bacteremia produced by a strain of Staphlococcus albus resistant to antibiotics. When the pain and infection were brought under control, the patient was still plagued with severe muscle spasm of the back muscles. Chlormethazanone was given for fourteen days and the patient experienced great relief. The patient was able to move about with greater ease after taking the drug for fortyeight hours. This case illustrates the true skeletal muscle relaxing qualities of this drug.

In Group D, we find another frequent con-

dition seen today—the muscle spasm associated with bursitis or after the acute painful stage of bursitis is under control. The stiffness and pain in the "Neck - Shoulder - Arm Syndrome" is seen in all walks of life and especially in the older age groups. In this series the greatest number of good results, percentage wise, were obtained. The author feels that chlormethazanone will find its greatest usefulness in this group.

Toxic Side Effects

In the use of chlormethazanone, the number of toxic side effects were few and disappeared promptly upon withdrawal of the drug. They consisted of dizziness (3), nausea (1) and drowsiness (1). There was no evidence of liver, bone marrow, or kidney effects from taking the drug. Nor was there any evidence of a cumulative effect. No skin rash was seen in the entire series.

Summary

A new oral skeletal muscle relaxant chlormethazanone (Trancopal)® was given a clinical trial over a period of ten months. It was found to be effective in varying degrees in the four groups of patients which are presented in this paper.

The side effects were very minimal, and the drug was, as a rule, well tolerated.

The findings are in accord with those of Lichtman,⁵ as far as the skeletal muscle relaxing effect is concerned. The use of the drug as a quieting agent alone, was not investigated; however, one must realize that this effect may

play a part in the skeletal muscle relaxing results obtained.

The author feels that fifty-eight cases are not anywhere near enough for a true and final conclusion as to this new drug. A larger number of cases must be accumulated and a longer period of time in use, is necessary before chlormethazanone can be placed in a definite category of useful drugs in the physicians' armamentarium. However, to date, it does show promise and no serious side effects or any addiction, as has been reported with meprobamate.⁶, ?

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Surgery in Addison's Disease

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Defore the introduction of desoxycorticosterone acetate in 1938, surgery in Addison's disease was so hazardous that it was rarely attemped. Pregnancy usually terminated in death for the mother and even the simplest minor procedures were practically precluded. In 1922 eleven cases of pregnancy were reported, all dying. In 1933 fifteen surgical attempts were described, all minor procedures, and eleven died.1 The advent of DOCA® improved this lamentable situation to some extent but it fell far short of making the Addisonian patient a safe surgical or obstetrical risk. It is interesting to note that as recently as 1955, Rowntree² published a report on eight cases of Addison's disease who had merely staved alive for fifteen or more years, aside from the added stress of an operative procedure. The advent of cortisone in 1948 added a tremendously important therapeutic agent, that to paraphrase Thorn³ has given the Addison's disease victim a "new lease on life."

There is surprisingly little reported subsequent to 1950 on surgery in this disease. Riches' reports an uneventful and successful two stage thoracoplasty on a case with active tuberculosis and Addison's disease using only 25 mgms/day of cortisone throughout the procedures with desoxycorticosterone and supplemental salt. This was in 1953. Also in 1953 Haars reported appendectomy on an adrenal insufficiency problem in which the appendix had ruptured and the patient was in crisis. He was successfully operated using adrenal cortex

extract (intravenously in large doses), intravenous saline, Levophed®, Doca and cortisone. The course in general was that of an uncomplicated problem. Griep and Buchholtz, described closure of a perforated duodenal ulcer in a case of Addison's disease who had entered crisis and failed to respond to Doca and salt and adrenal cortex extract in 1951. Cortisone was added to therapy in what seemed a last resort and in twelve days 3900 mgms. was given with marked improvement. A prior existing perforated ulcer was closed surgically without trouble. Incidentally, cortisone was not restarted here postoperatively apparently being considered incompatible with the duodenal disease.

The lack of reports subsequent to these I am sure is not because there are no surgical problems accompanying Addison's disease any more but probably because the value of cortisone is so universally accepted it hardly seems worth writing about. The two cases following represent the author's experience:

Case One

Admitted 2/19/57—Discharged 2/28/57—Readmitted 3/4/57—Discharged 3/8/57.

J. N., 19-year-old, white female had been a well controlled case of Addison's disease since January 1953. Control was maintained with cortisone, 25 mgms. daily, and trimethyl desoxycorticosterone (Percorten®) 50 mgms. intramuscularly monthly. Pregnancy began in June 1956. In the last trimester starting about De-

cember 1956 the Percorten was reduced to 25 mgms. monthly and the cortisone to 12.5 mgms. daily. She had a completely uneventful pregnancy without morning sickness or edema. X-ray studies left doubt in the mind of the obstetrician that she could easily and safely deliver from below and cesarian section was decided as the optimum course to follow. On the day before operation the patient was given 150 mgms. cortisone orally in divided doses. Tuinal, grain 11/2, was given at bedtime and two hours before beginning anesthesia the day of delivery 100 mgms. Demerol® and 1/150 grain atropine were given on call to the operating room. The procedure was performed under spinal anesthesia using 8 mgms. Pontocaine® and 11/2 cc. 10% glucose. Pentothal Sodium® 21/2% sol. 3 cc. (75 mgms.) was given intravenously to induce sleep and 50-60 mgms. of 0.2% sol. Pentothal Sodium was used throughout the forty minutes on the operating table. On two occasions during the procedure 4 mgms. Vasoxyl® was intravenously administered when the blood pressure approached 100/70 mm. Hg. In the main the blood pressure was sustained at about 120/80. One liter of dextrose in saline was started while on the table and completed during recovery room period.

On the day of operation 150 mgms. of cortisone was given intramuscularly and this was repeated the first postoperative day. Edema became apparent on the second day after operation and cortisone was reduced to 75 mgms. per day—25 mgms. per day by the third day after operation was given and continued at this tevel. Blood pressure was checked every two hours for forty-eight hours and then less frequently. She was discharged on the seventh day after operation having had an uneventful postpartum period. On the day of discharge 25 mgms. of Percorten was given intramuscularly.

Blood sodium, potassium, and chlorides were normal preoperatively and did not fluctuate significantly throughout her stay in the hospital.

The patient returned to the hospital on her

tenth day postpartum with an acute cystitis due to E. coli. Cortisone was increased to 75 mgms. per day and Chloramphenicol, 2 grams daily, started with rapid clearing. She went home again on the fourteenth day postpartum without further incident and on her maintenance therapy at the pre-pregnancy level.

Case Two

Admitted 11/18/58—Discharged 11/25/58. J. B., 30-year-old, white female had been a well controlled Addison's disease victim for about eleven months. On November 11, 1958 she was seen by her gynecologist with a sudden prolapse (grade 3) of her uterus. Hysterectomy was felt to be the only practical recourse and this was planned.

The maintenance therapy for hypoadrenalism had been cortisone 25 mgms. daily, Percorten 25 mgms. monthly injection, and free use of salt. The physical examination was negative. Blood pressure 100/72, pulse 72. Urinalysis was negative with specific gravity 1.030. Hemoglobin was 14.7 grams, WBC 5,100 and differential normal. B.U.N. 13.9 mg. Chlorides 105.6 mgms. Sodium 140 meq. Potassium 4.4 meg. She had received her last Percorten injection on October 16, 1958. On the day before surgery she was given 100 mgms. cortisone orally in divided doses and Percorten Linguet® 2 mgms. Her preoperative medication consisted of Seconal Sodium®, grains 11/2, two hours before operation, Demerol, 75 mgms., and atropine, grain 1/150, three hours pre-operative, cortisone 50 mgms. intramuscularly at 6 A.M. the day of operation and repeated every eight hours thereafter. DOCA Linguet® 2 mgms. was given daily. Blood pressure was checked every two hours after return from the operating room. Demerol 75 mgms. every three or four hours was ordered for pain control after operation. Anesthesia was spinal using 12 mgms. 1% Pontocaine and 11/2 cc. 10% glucose. Pentothal 125 mgms. in 21/2 % solution produced sleep and 200 mgms. in 0.2% I. V. drip maintained sleep throughout the procedure. At about one hour

and twenty minutes after anesthesia began the blood pressure drifted to 80/50 mm. Hg. and 2 mgms. Vasoxyl was given I. V. with prompt return of blood pressure to 100/60. On the third postoperative day the patient was feeling very well. Bladder function was normal. Blood pressure averaged 110/70. Cortisone was decreased to 25 mgms. orally every eight hours. There was no significant change in the blood electrolytes postoperatively. The patient received 1,000 cc. dextrose in water in the operating room and 1,000 cc. 5% dextrose in saline the first postoperative day. By this time she was eating and drinking freely. The recovery of this patient was remarkable and I think a definite euphoria was present attributable to the relatively large dosage of cortisone. This patient went home on her fifth postoperative day on 50 mgms. cortisone. She was given 50 mgms. Percorten repository the day of discharge. Return to maintenance dose took place in the next ten days and the entire course was one of the most uneventful imaginable.

Discussion

We all accept the fact that people with Addison's disease do not tolerate well stress of any nature. A large part of this intolerance is blamed on the inadequate oxysteroid production that has to do with regulation of carbohydrate metabolism and electrolyte balance. However, the protein regulating hormones apparently should not be dismissed according to some students who indicate that protein depletion and deficiency of anabolic hormones may be contributing factors of considerable significance. I am not in a position to stress the need for prolonged preoperative attention to protein replacement but can envision a less fortuitous outcome than so far described should the occasion arise to proceed with extensive emergency surgery on an uncontrolled Addison's disease problem.

Interesting work was published in 1954⁸ directed at measuring the adrenal activity under surgery and traumatic conditions. There was

no question that these stressful conditions raised the 17-hydroxysteroids by actual blood analysis. In uncomplicated elective surgical procedures the increases persisted an average of thirty-eight hours. In conditions associated with shock and death the 17-hydroxysteroids staved elevated until one to four hours before death which implies some life-sustaining function of these substances. Much emphasis was laid on meticulous preoperative medication, stressing application of minimal doses and anesthetic precision by Schwartz and associates.9 There seemed to be considerable wisdom in the statement that "no anesthetic preparation or method was without harmful effect." In the two cases presented routine doses of preoperative drugs were used and justified on the basis of previous experience with the patients concerned and their individual tolerances. Dealing with uncontrolled Addison's disease is considerably more hazardous than the examples presented and the precautions accented so strongly in the work mentioned above I do not believe are overstated.

In arriving at dosages for control under surgical procedures a basic plan was obtained by studying the therapy applied in "euadrenal" patients adrenalectomized for hypertensive disease or metastatic malignancy from breast and prostatic cancer.10 The feeling in general in gauging the administration of cortisone was to give them enough and in excess rather than too little. It was interesting to note that Riches⁴ case did very well on a constant dose of 25 mgms. cortisone per day. At the other extreme 3900 mgms. was only dangerous because it opened up a preexisting duodenal ulcer in the case of Griep and Buchholtz.⁶ Desoxycorticosterone needs treating with a little more respect in that serious hypertension and edema can result and cause embarrassing complication. Attention to blood pressure and weight gain is the most practical guide in dosage here. Serial electrolyte studies are also useful. Dosage of these potent agents must be individualized on the basis of physiologic status rather than any rule of thumb.

Summary

Two instances of major surgery performed on patients with Addison's disease are presented.

Attention is directed to the physiologic effects of stress on the adrenal gland.

Change in risk concept of the Addison's disease patients undergoing surgery is apparent.

Suggestions on replacement therapy for the hypoadrenal surgical patient are made.

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CLINI-CLIPPING



a. Excision of part of common duct.



b. Ligation of common duct.



c. Perforation of duct by suture.

Nasal Polyposis

Treatment with Triaminic
Tablets containing hydrocortisone

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asal mucus polyps are a complication of chronic rhinitis that present a serious problem in treatment and prevention. When looked for carefully they may be found in as many as five percent of patients suffering from rhinitis and thirty percent of instances of chronic asthma.3 Since the pioneer work of Kern and Schenck,1,2 it has been generally accepted that nasal mucus polyps are allergic in origin. An important cause of their formation appears to be the constant vasodilatation and mucus membrane edema that accompanies the allergic insult. Arising from the lateral walls and roof of the nose, and from the sinuses, these growths may cause up to complete nasal obstruction, resulting in impaired sinus drainage, chronic infection, anosmia, and the sequelae of mouth breathing.3

It is notorious how rapidly mucus polyps can regenerate after surgical removal, and many a patient has undergone repeated polypectomies without permanent relief. Control of the allergic factor usually will retard but may not entirely prevent recurrence after removal. As pointed out by Jones, anti-allergic treatment alone does not cause regression of well established polyps. A method improving medical treatment of these growths is therefore highly desirable.

Preliminary observation on cases of chronic

allergic rhinitis indicated that a combination of a vasoconstrictor and antihistaminics, with and without hydrocortisone, was effective in reducing mucus membrane edema, and would therefore be worth evaluating as an adjunctive treatment of nasal polyposis.

Materials and Methods

Three types of tablets, similar in appearance, were used. Each type was assigned a code letter combination, so that its identity was concealed until the end of the main portion of the study.

The first type of tablet (Triaminic®) consisted of the following:

Phenylpropanolamine hydrochloride 50 mgms. Pheniramine maleate 25 mgms.

Pheniramine maleate 25 mgms. Pyrilamine maleate 25 mgms.

One-half of these ingredients was contained in the outer layer of the tablet, which dissolved at once after ingestion, and the remainder was in an inner core designed to disintegrate after three or four hours. The effect of each tablet was thereby prolonged for six to eight hours.

The second type of tablet contained the same ingredients as the first, but with the addition of 10 mgms. of hydrocortisone acetate to the outer layer. This tablet has been designated Triaminic-HC.® The third type of tablet contained only 10 mgms. hydrocortisone acetate and inert ingredients.

As a vasoconstrictor to reduce nasal mucus membrane edema and congestion, phenylpropanolamine is widely used. Taken orally, it acts in the nose without appreciable central nervous system stimulation.⁸ To inhibit the allergic factor, the antihistamines, pheniramine and pyrilamine, may be used together with advantage. Shure, Sievers and Harris⁶ as well as others have shown that the use of mixtures of antihistaminics reduces the side effects without sacrifice of histamine antagonism.

Hydrocortisone in doses adequate to control asthma has been reported by Arbesman and

Triaminic® is a trademark of the Smith-Dorsey Division of the Wander Company, Lincoln, Nebraska, whose support made this study possible.

TABLE I EFFECT OF ORAL TREATMENT ON 27 CASES OF NASAL POLYPOSIS

MEDICATION Triaminic® and	IMPROVED	NOT	IMPROVE
Hydrocortisone	24 (89%)	3	(11%)
Triaminic	17 (63%)	10	(37%)
Hydrocortisone (24 Cases only)	13 (54%)	11	(46%)
	RETAINED IMPROVEMENT	RI	ELAPSED
Triaminic following Triaminic and Hydro- cortisone (20 Cases)	13 (65%)	7	(35%)

TABLE II PATIENTS WITH NASAL POLYPOSIS: NUMBER OF CASES IN EACH RANGE OF OBSTRUCTION

AMOUNT OF NASAL OBSTRUCTION			
0-24%	25-49%	50-74%	75-1009
0	2	10	15
10	11	6	0
	0-24%	0-24% 25-49%	0 2 10

Richard⁵ to cause shrinkage of nasal polyp in five of six patients. However, the doses used, ranging from 40 mgms. to 80 mgms. a day, caused over twenty percent of these patients to show the undesirable side effects of hyperadrenalism. MacLaren and Frank⁵ found that hydrocortisone, in doses below 40 mgms. a day, could be tolerated for long periods of time by the majority of their patients. It appeared desirable, therefore, to limit the hydrocortisone used in the patients with nasal polyposis to 30 mgms. or less per day.

In the study reported here, twenty-seven patients suffering from various degrees of nasal polyposis and polypoid degeneration of the turbinates associated with chronic vasomotor (allergic) rhinitis were given for periods of two weeks in random order each of the three types of medication. The dose in each case was three tablets a day during the main trial period. Subsequently, lower doses were used to establish maintenance levels.

In the group of twenty-seven patients, there

were nine males and eighteen females. The age range was seven to seventy years, with the median at forty-three years. Bilateral mucus polyps were present in twenty-one; unilateral in one. There were seven instances of marked polypoid degeneration of the turbinates. Polypectomies had been performed on fourteen, or about half of the patients. Three had been operated on once, four twice, two thrice, and one each for four, five, six, seven and eight times. Positive skin tests to common environmental allergens such as house dust, animal dander, mold spores, etc., and to pollens were found in twenty-two of the twenty-seven patients, an incidence of 81.5 percent.

The percent of obstruction in the nose produced by the growths on each side was estimated, and the average for both nostrils recorded before treatment was started and at weekly intervals throughout the study. Note was also made at each weekly visit of any comments the patients made with regard to nasal breathing, drainage, pain, sense of smell, and any side effects from the medication.

Results and Discussion

The data presented in Table I shows that during the two weeks the patients were on Triaminic-HC, twenty-four (89%) showed improved nasal airway due to shrinkage of polyps, and three (11%) were either no better or may have been worse. During the time the patients were on Triaminic only, seventeen (63%) were improved, ten (37%) were not. Due to technical difficulties, not all patients were able to complete the two weeks on hydrocortisone alone. Of the twenty-four that did, thirteen (54%) improved and eleven (46%) did not.

On the basis of this series of patients, it appears that Triaminic and hydrocortisone together had a decided effect in decreasing the extent of nasal polyposis, and the combination is more effective than either one alone.

Also shown in Table I are the twenty patients who used Triaminic after Triaminic-HC. Improvement was either maintained or increased in thirteen (65%) but relapse was

NASAL OBSTRUCTION-FROM MUCUS POLYPS-27 CASES

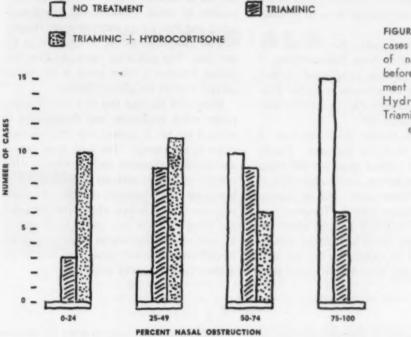


FIGURE 1 Number of cases in each division of nasal obstruction before and after treatment with Triaminic-Hydrocortisone and Triaminic. (See text for explanation.)

found to occur in seven (35%). In other words, two-thirds of the cases could be switched to Triaminic after the polyps had been reduced by combined use with hydrocortisone, but one-third could not.

After the main portion of the study was completed, fourteen patients were allowed to continue for two to four weeks on Triaminic-HC at the reduced dose of two tablets a day. A gradual return of polyposis was found in four (29%) but ten (71%) were able to maintain their improvement.

The rate and extent of response to Triaminic-HC was occasionally dramatic. A large mucus polyp could be seen to start wrinkling in forty-eight hours, and in two weeks, a growth that had been causing complete nasal obstruction would be reduced to one-third or less of its original size.

The change in nasal obstruction from mucus polyps before and after treatment is given in Table II and shown graphically in Figure 1. The patients were divided into four categories, depending on the percent of obstruction to the normal airway present at the time. These divisions were 0—24%, 25—49%, 50—74% and 75—100%.

Before treatment there were no patients with less than seventy-five percent obstruction, while there were fifteen who were more than seventy-five percent obstructed. After the course of Triaminic-Hydrocortisone, there were no patients left in the seventy-five percent or more obstructed division, while ten had entered the less-than-twenty-five percent group. The number in the twenty-five to forty-nine percent obstructed category increased on Triaminic-Hydrocortisone from two to eleven, whereas the number in the fifty to seventy-five percent obstructed group decreased from ten to nine.

Treatment with Triaminic only decreased the number of patients with seventy-five percent or more of nasal obstruction from eleven to six, and did not produce as noticable a shift of the group to the lesser degrees of nasal obstruction.

Side effects were slight. No evidence was found of an ill effect from hydrocortisone in any case. Two patients complained of mild sedation and one of nervousness on the Triaminic containing tablets. One patient felt dizzy while taking Triaminic-HC.

The long term benefits from this type of treatment have yet to be evaluated. Twenty patients from the original group are still using, after seven to ten months, various schedules of Triaminic and Triaminic-HC, and are keeping their symptoms under control. Temporary relapses are likely to follow sinus or upper respiratory infections, which will usually respond to antibiotics. As is common in chronic allergic disease, "escape" from the restraining effect

of medication may appear spontaneously and last for a variable length of time. In some patients in whom Triaminic-HC was discontinued and their polyps enlarged again, resumption of treatment was not as effective as the first time. The reason for this is not clear, but similar behavior is often noted in the use of adrenal steroids for allergic disease.

Because of the high rate of return of mucus polyps when medication was discontinued or reduced too far, it is clear that this treatment alone is not enough. For long term control allergic desensitization and avoidance when possible of specific antigens must be included. For rapid relief, however, of severe nasal obstruction due to polyps while other measures are being brought into play, Triaminic-HC appears to be a very useful medication. Only further experience will show what may be the optimal combination of treatments.

Summary

- 1. A combination of phenylpropanolamine, pheniramine and pyrilamine with hydrocortisone produced improvement in 24 or 27 cases of nasal mucus polyposis and polypoid degeneration.
- 2. The phenylpropanolamine, pheniramine and pyrilamine combination and hydrocortisone only were not as effective when used separately.
- 3. Relapses were frequent when the medication was reduced or discontinued, or when upper respiratory infections occurred.
 - 4. Side effects were slight and infrequent.
- 5. The phenylpropanolamine, pheniramine, pyrilamine and hydrocortisone combination should be a valuable method of producing rapid relief of polyposis during the time that the causative factor is being brought under control.

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EDITORIALS

PERRIN H. LONG. M.D.



LEUKEMIA VERSUS FALLOUT

For ten years or more, sensation seekers both lay and medical have been flooding the press and medical journals with dire predictions about the immediate effects of the fallout from A- and H-tests on world population, as such relates to leukemia. One of the stock and dogmatic assertions in support of their views is that the occurrence of leukemia, as measured by mortality reports has increased markedly in the last twenty years.

However, these dolorous individuals, whose emotions (or would it be better to say "their feelings of guilt") are ruling their minds to the detriment of what should be their common sense, have not taken into consideration the distribution by age of the deaths from leukemia.

As Major Dacquisto has so ably pointed out in his communication in this issue of Medical Times entitled Some Observations on United States Leukemia Death Rates (1940-1945) and the Possible Role of X-Radiation and Fallout, "leukeomogenic factors in the American environment have stabilized or decreased over the past 15 years" and that "failure to respond homogeneously means that there is an agent or agents acting only on a portion of the population (those 55 or over) or else that the agent or agents find undue sensitivity in the older population even while the entire population is at risk."

Just what these factors are, and whether they are extrinsic or intrinsic should provide a fascinating area for biological and statistical speculation and research.

"POLIO" PROTECTION BY MOUTH (When will it be available?)

Despite the fact that Jonas Salk developed an effective agent which immunizes the great majority of those who receive three injections of it against poliomyelitis, (a booster dose once a year is recommended) outbreaks of infantile paralysis with needless serious cripplings and deaths have occurred every summer since the introduction of the so-called Salk vaccine.

Sparked by the pronouncements of the last two Surgeons General of the Public Health Service which resulted from the recommendations of their Advisory Committees, an attempt, sponsored by the Public Health Service, the National Foundation for Infantile Paralysis, the American Medical Association, and other very important governmental agencies and voluntary medical organizations, has been made to vaccinate everyone in the United States who is under forty years of age. This attempt has met with varying degrees of success. Local, but often severe epidemics of poliomyelitis have occurred each summer since the introduction of the Salk Vaccine. Why? Well, there appear to be several reasons. First, it is well known that through a lack of understanding, fear generated by the "pain" of the first injection, idle gossip about "reactions," laziness, shame of having missed an appointment for an injection, etc., are great problems in any voluntary program of immunization which requires two or more injections of the immunizing agent. Secondly, because of the presence of living virus in certain batches of the earliest available, commercially produced Salk vaccine, which produced serious disease in some of those vaccinated, a residual fear of this vaccine remains not only in the minds of many lay people, but also in those of some physicians. This fear has not been overcome to date despite extensive educational campaigns. there are a considerable number of people who because of pride, philosophy, or dislike of being in a line, will not utilize the local, public health facilities for vaccination against poliomyelitis, but for whom vaccination is financially still out of the picture (or at least they think so). In summing up, it would appear to your Editor that the fact that three injections are needed (with a booster each spring), public inertia and fear, and in a certain group of people, cost, are the most important reasons, despite enormous pressures, why so many people under forty have not been immunized against poliomyelitis.

For a number of years (even before the

release of the Salk Vaccine) a number of individuals in this country have been studying experimentally, and more recently clinically, the use of attenuated strains of the poliomyelitis virus as immunizing agents against the disease. The idea of using an attenuated, essentially non-disease producing strain of an infectious agent to protect against the clinical disease which virulent strains of the infections agent produce, is an old one. Actually, it goes back to Pasteur. In human medicine probably the best example of such a procedure is the use of B. C. G. vaccine to protect against or alter tuberculous infection. B. C. G. has been in use for almost forty years and since World War II many millions of doses of this immunizing agent have been given to children and young adults all over the world to protect them from the ravages of tuberculosis. It has proven to be a very useful, practical and effective agent. It requires but one injection.

Now what are the facts about the possible use of attenuated living strains of the various types of poliomyelitis virus, as immunizing agents against the disease infantile paralysis. As has been said this has been under study for a number of years.

The three chief protagonists in this field are Dr. Albert Sabin of the University of Cincinnati School of Medicine, Dr. Herald Cox of the Lederle Laboratories, and Dr. Hilar Koprowski, formerly a member of the staff of Lederle Laboratories, now Director of the Wistar Institutes, University of Pennsylvania. What is it that they propose? To use attenuated strains of living poliomyelitis virus which they have developed for immunization against the active disease. How? By having the patients swallow the attenuated living strains of the virus. Has this procedure been given extensive testing in the laboratory? The answer is "yes, it has." Has it been given widespread clinical testing? The answer is again "ves." It has been tested in many, many thousands of individuals without any known ill effects. Then, why isn't it available for general use? It is a very simple method and one that would be, administratively speaking, far superior to

the current three injection, yearly booster procedure when one uses Salk Vaccine. The answer is that the licensing authorities within the United States Government (Division of Biologic Standards, Public Health Service, Department of Health, Education and Welfare) having once come under severe criticism for what some people considered the too hasty release of the Salk Vaccine are now proceeding, some are saying, at a snail's pace as far as the release and permission for the general use of the attenuated viral vaccine is concerned. "Once bitten, twice shy."

Late in August an interesting report on this subject was released by Surgeon General Leroy E. Burney of the Public Health Service. It came from Dr. Burney's Committee on Live Poliovirus Vaccine. The Committee had met to review data on and "to consider the initial problems involved in the preparation of provisional specifications for the production" of attenuated live poliomyelitis viral vaccine. This Committee has the responsibility for advising the Surgeon General on all aspects of the development and production of the attenuated vaccine.

As reported by the Surgeon General, the Committee made the following points relative to the status of the attenuated live poliomyelitis viral vaccine:

"1. Three sets of attenuated polio virus strains have been proposed for use as oral vaccines. The Sabin strains have all had extensive field trials in Eastern Europe, Mexico, and Singapore; the Lederle strains have been widely used in Latin America; and the Koprowski Type I strain has been used in a large trial in the Belgian Congo. However, no significant amount of field information is available concerning Koprowski's Type II, and only limited information is available in relation to his Type III component.

2. There is considerable difference in the neurovirulence or damaging effect on nerve cells for monkeys of the three sets of strains as determined by intrathalamic (within the brain) and intraspinal inoculation. On this basis, the Sabin group has an advantage over

the others, but none of these strains is completely nonvirulent when inoculated into monkeys by the intraspinal route.

3. No evidence has been reported to indicate that any of these vaccines produced any harm to the individuals to whom they were administered. The thoroughness with which the observations were made has varied in different studies.

4. In some studies the ability of these strains to multiply and thus produce antibodies is less than could be expected on theoretical grounds. Apparently a number of factors operate in the field which may prevent alimentary infection and the subsequent development of immunity.

5. A number of workers have reported that virus excreted by vaccinated individuals had shown increased neurovirulence for monkeys. There is considerable disagreement among investigators as to the significance of these reversions in virulence.

6. Field experience with any strain to date cannot be interpreted as affording reasonable proof that the community of nonvaccinated persons will be free of danger from possible reversion of virulence in excreted virus under a great variety of readily anticipated circumstances. This is one of the most important unresolved problems.

There is evidence which indicates that under some circumstances the simultaneous administration of all three types of virus may be effective.

Major problems which remain to be solved before definitive decisions can be made regarding licensing are reported by the Committee:

 The significance of increased neurovirulence for monkeys of virus excreted by vaccinated individuals, as reported by a number of workers.

2. The demonstration of adequate measures of effectiveness of live poliovirus vaccines in field trials which, to be definitive, must involve large population groups. The capacity of the virus to spread among contacts means that in such a controlled field trial, some non-vaccinated controls will become infected and

thus presumably become immune—a complicating factor in such a study.

3. The development of standards to determine the possible presence or absence of stray agents in the vaccine. Over 40 simian agents, including B-virus, have been encountered in the routine testing of killed poliovirus vaccine. These are derived from the money tissues used. Little is known of their pathogenicity for man, except B-virus and even here the minimum infecting dose is not known.

4. The establishment of carefully designed and evaluated studies to demonstrate the production of specific antibodies in 90 percent or more of inoculated susceptibles in order to assure the potency of such vaccines."

Now what is the validity of the questions raised by the Committee? First of all as has been pointed out before, the Committee has the specter of the troubles in the early production of the Salk Vaccine before it, and hence cannot help being influenced by what happened then. As regards the "significance of increased neurovirulence for monkeys" this should indeed be carefully studied. But from the practical point of view, as thousands and thousands of clinical-testing vaccinations are piled up without any evidence of paralysis or neurological disorders, the question must be raised as to whether the finding in monkeys has any clinical significance. Secondly, your Editor believes the Committee is bending over back-

wards in requesting that data be presented relative to the effectiveness of the attenuated living vaccine. Thirdly, the problem of stray agents is an interesting one. Certainly, contamination with B-virus must be considered and coped with. Indeed, contamination of the vaccine seems to the Editor to be a problem which requires careful study. Fourthly, it is difficult to know just what the Committee had in mind in the phrase "carefully designed and evaluated studies to demonstrate the production of specific antibodies in 90 percent or more of inoculated susceptibles in order to assure potency of such vaccines". While on the surface this seems desirable, a tough or blocking Committee could hold up indefinitely the production of vaccine on the basis of this require-

Well this is the situation today and in the Surgeon General's release of the deliberations of the Committee he summed up by saying, "Meanwhile in the Salk Vaccine there is already at hand a potent weapon whose value and effectiveness have been proved. I continue to urge all persons under 40 to complete their series of Salk injections so that no one will remain unprotected at the time of the next polio season."

All of us agree with him, but at the same time, one can be certain because of "the nature of the beast" concerned there will be other polio epidemics next summer.

ENCORE BLUE CROSS

During the past eighteen months the increase in Blue Cross rates over the country has brought about protests from consumers and insurance commissioners alike. Certain groups, such as the United Auto Workers and the Steel Union, have become so distraught that they have appointed committees to study the possibility of setting up systems of medical care for their members similar to that of the United Mine Workers. At its last session in Atlantic City the American Medical Association approved the "free choice" of systems of medical care thus withdrawing official opposi-

tion to the United Mine Workers organization for medical care.

Now it is becoming obvious that as a result of the recent steps taken by various unions to organize voluntary hospital employees across the United States, that, where these unions organize successfully, wages of employees will go up, and the added costs will be passed on to the consumer. This will quickly bring about agitation for a further increase in Blue Cross rates to provide for greater benefits to reimburse hospitals for their costs.

Recently (September 10) the Insurance Commissioner of New Jersey granted an average increase of 14.9 percent in its group subscriber rates for Blue Cross and an average of 17.5 percent rise in rates for non-group subscribers. What was his explanation of this decision? He said that it was an absolutely essential move if the Hospital Service Plan of New Jersey was to remain solvent, and have enough money to reimburse the hospitals participating in the Plan. It must be pointed out that in March 1958, a rise in rates of 18.5 percent had been authorized in New Jersey. Thus, there have been two increases in eighteen months.

In discussing this latest rise, the Insurance Commissioner of New Jersey stated that a Blue Cross study committee which he had appointed in 1958 made a preliminary report last Spring in which it predicted socialized medicine if Blue Cross rates continued to rise. This committee urged that Blue Cross rates be handled on a national basis.

The Commissioner further went on to say that he hoped "that improved controls by physicians and hospitals can make further progress in restraining admissions."

For sometime, your Editor has been disturbed about this matter of continuing increases in Blue Cross premiums. He has made certain suggestions which he will now put down in one, two, three form. That Blue Cross rates be handled on a national basis.

II. That Blue Cross stop acting solely as a fiscal agent and interest itself in the administrative and financial practices in its participating hospitals. There are poor business practices in some hospitals which receive millions of dollars of Blue Cross money each year. If anyone doubts this take a look at the over-all management of certain municipal hospital systems. Many voluntary hospitals have just as poor administrative and financial practices.

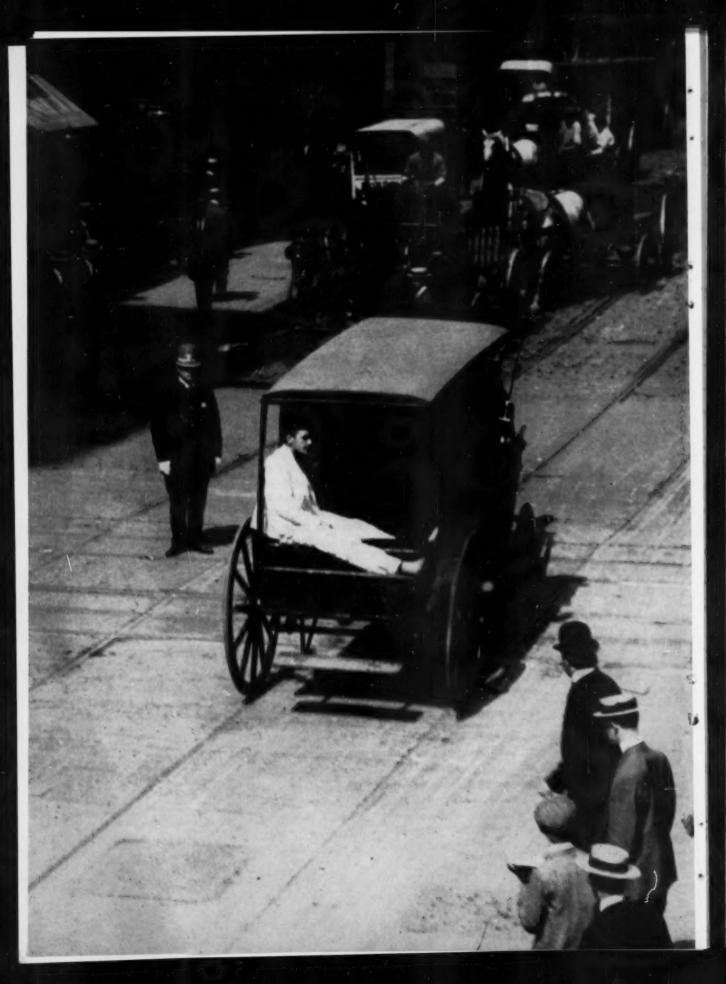
III. Have a deductible clause in each Blue Cross policy. Currently, this should be between fifty and one hundred dollars.

IV. Hospital trustees should stop the practice of admissions for diagnostic "work-ups." How? By setting up a joint Trustee-Staff Committee to pass on the validity of suspect admissions. Doctors who violated the hospital rule in this respect would be dropped from the staff.

If the Blue Cross and the hospitals of this country don't get together and work out a plan which will stop the ever upwards spiral of Blue Cross rates we will have some form of governmental control (socialized medicine) within six years. Certainly, doctors, you don't want that, or do you? Are we becoming Welfare-State minded?

WHAT IS YOUR VERDICT?

In this issue and every issue, *Medical Times* presents authentic medico-legal cases and their interesting court decisions. Test your medical magistracy. See page 53a.



Remember When...

There were enough house staff to go around and all large municipal and voluntary hospitals had their own ambulance services?

These ambulances were horse-drawn as is the one portrayed in this picture?

The "ambulance doctor" was considered to be a most important lifesaving person?

New York policemen wore helmets?

Men wore hats, and it was considered de rigueur to purchase a new straw hat each spring?

Derbies were worn at mid-day?

Women still wore bustles and their skirts swept the walk?

Photo: Brown Bros., N.Y.C.









THE LONG AND SHORT OF IT

From Your Editor's Reading

Unrecognized Myocardial Infarction

"One hundred forty-three cases in which the presence of acute or healed myocardial infarcts or both was established at necropsy performed at the Mayo Clinic during the two-year period 1953 and 1954 were studied. In 57 (50%) of 113 patients with healed infarcts the condition had been clinically diagnosed or suspected. In 56 patients (50%) there was no clinical diagnosis or recorded suspicion of previous myocardial infarction. Of 63 patients who died during acute myocardial infarction, 38 (60%) had a correct clinical diagnosis and 25 (40%) did not.

The most important factor in the failure to recognize healed or acute infarcts was the absence of angina pectoris or of a history of prolonged thoracic pain. Such a history was obtained almost twice as frequently in patients with healed infarcts who were seen repeatedly as in patients who were seen only for their terminal illness. However, even among the group of patients who were seen repeatedly, there was an appreciable number (41%) who had no history of angina pectoris or of previous acute substernal pain, even though severe coronary atherosclerosis and gross myocardial scars were present at necropsy.

The coexistence of acute dyspnea, congestive heart failure, hypertension, or diabetes mellitus did not appear to influence greatly the incidence of correct antemortem diagnosis. The average age of patients with undiagnosed acute infarction was four years greater than that of patients with recognized infarction, but the sex distribution was the same in the two groups.

With both acute and healed myocardial infarcts, correct antemortem recognition was somewhat more frequent when the lesions were conglomerate and transmural in extent rather than patchy and subendocardial. Among the transmural infarcts those located laterally were more often unrecognized, while among the subendocardial infarcts those situated laterally and posteriorly were more difficult to diagnose. These differences in frequency of recognition were unrelated to the incidence of pain and were probably related to the increased likelihood of obtaining electrocardiographic confirmation when myocardial infarction occurs anteriorly.

In 20 of 47 patients with acute myocardial infarction who had electrocardiograms taken after the estimated onset of the infarction the electrocardiographic evidence for acute infarction was unequivocal, and in 9 it was suggestive. Thus, in 29 of 47 instances (62%) the electrocardiogram gave supportive evidence of myocardial infarction. These results probably reflect an insufficient number of follow-up electrocardiograms in patients whose symptoms did not strongly suggest myocardial infarction and are not a good index of the diagnostic accuracy of the electrocardiogram.

A history of characteristic thoracic pain was often absent when infarction occurred in the immediate postoperative period, was accompanied by shock, occurred in patients who had concomitant strokes or sudden occlusion of other major arteries, and occurred in patients whose state of consciousness was altered by other systemic diseases."

WILLIAM J. JOHNSON, RICHARD W. P. ACHOR, HOWARD B. BURCHELL, JESSE E. EDWARDS Arch. of Int. Med. (1959) Vol. 103, No. 2, Pp. 260-61.

Coronary Heart Disease and Physical Activity of Work

"This report is one of a series on the epidemiology of coronary disease, and it continues the study of coronary (ischaemic) heart disease in relation to physical activity of work.

The hypothesis was previously stated that men in physically active jobs have a lower incidence of coronary heart disease in middle-age than men in physically inactive jobs. More important, the disease is not so severe in physically active workers, tending to present in them in relatively benign forms. The investigation now reported deals with the relations between physical activity of work and the frequency of ischaemic myocardial fibrosis in a sample of 3,800 middle-aged men dying from causes other than coronary heart disease.

All departments of morbid anatomy in the hospitals of the National Health Service of Scotland, England, and Wales were invited to take part in a national necropsy survey during 1954-6 by sending particulars in standard form of the naked-eye findings on the coronary arteries, the myocardium, and other specified items for a consecutive series of 25 males aged 45-70 years coming to necropsy. 206 departments cooperated, more than 85% of those eligible. About 5,000 reports were received, made up in round numbers thus: 1,200 deaths from coronary heart disease, etc. (Group A); 1,000 deaths from conditions with a specially high prevalence of coronary artery disease—for example, deaths caused by hypertension and its complications, deaths in diabetics, deaths from arterial disease in other sites (Group B); and, the remainder, 2,800 deaths from miscellaneous conditions, their main causes having no particular association with coronary disease

—for example, injuries, infections, cancer (Group C). Groups B and C comprise 3,800 non-coronary deaths.

Two broad types of ischaemic myocardial fibrosis in the left ventricle and interventricular septum are described: (1) the large, discrete, often solitary patch which is probably the endresult of major and acute infarction and is associated particularly with complete or near-complete occlusion in a main coronary artery (90 cases among the 3,800 non-coronary deaths); and (2) smaller, commonly multiple scars, the result, it may be, of more chronic and less severe ischaemia, and occuring in hearts showing usually lesser focal narrowings of coronary arteries or branches (290 cases).

Cases were classified as 'hypertensive' or 'other' on the basis of the clinical and pathological information provided. About half the cases in Group B and 10% of those in Group C were thus regarded as hypertensive. The large healed infarcts—type 1 fibrosis above—were found equally in hypertensive and other cases; focal myocardial fibrosis of type 2 was common in hypertensive cases than in those without record or evidence of hypertension.

The last occupation of each man was graded on a three-point scale in terms of the physical activity the job typically involved as 'light,' 'active,' or 'heavy.'

Relation of Fibrosis to Occupation. Ischaemic myocardial fibrosis in these 3,800 necropsies was commoner in the light occupations than in the active and heavy. Scarring among light workers aged 45-60 was as common as in heavy workers 10 to 15 years older. The two main types of ischaemic fibrosis were differently related to physical activity of occupation:

The large healed infarcts, type 1 above, showed a strong gradient with occupation, being three times commoner in light workers than in heavy workers overall; four to five times commoner at 45-60 years of age, and two to three times commoner at 60-70 years. The excess of these severe ischaemic lesions in light workers was evident in Group B and in Group C, in hypertensive cases as in others, in every sizeable medical and social category that was identified.

Focal myocardial fibrosis, Type 2, was strongly associated with occupation only in hypertensive cases. Under 60 years of age, the light occupations among the hypertensives showed these small, multiple scars almost three times more often than active and heavy workers with hypertension, and about six times oftener than all without record or evidence of hypertension. The corresponding figures at 60-70 years of age were one and a half and three times.

In brief, ischaemic myocardial fibrosis was commoner in light occupations and it appeared earlier in them. It was also more severe among light workers, particularly at younger ages.

Coronary Artery Disease. The pathological basis of ischaemic myocardial fibrosis is coronary 'atheroma' or 'atherosclerosis' with impairment of the coronary circulation. In the present data the overall prevalence of coronary atheroma was exceedingly high, and, little, moderate, or much, it did not vary with physical activity of occupation. Coronary narrowing was similarly common in all occupation groups. But actual occlusion of a main coronary artery, complete or near-complete, was commoner in sedentary and light workers than in the active and heavy. This excess of coronary occlusion was seen in the younger men and older, in hypertensive cases as in those without record or evidence of hypertension. In general, the frequency of coronary occlusion in light workers aged 45-60 was the same as that in heavy workers aged 60-70.

The main results of the inquiry may therefore be stated as follows: atheroma of coronary walls, no relationship with physical activity of occupation; occlusion of coronary lumen, some relationship; ischaemic myocardial fibrosis, much relationship.

Ischaemic Heart Disease and Coronary Artery Disease. The excess of coronary occlusion among the light occupations was smaller than the excess of large healed infarcts found in them. Among hypertensive cases there was no trend with occupation in the frequency of lesser degrees of coronary narrowing, although, as stated, the frequency of focal myocardial fibrosis was greater in light workers with hypertension than in active and heavy workers with hypertension. That is to say, in the presence of coronary narrowing and occlusion light occupations showed more ischaemic lesions of the myocardium than did active and heavy workers. Analysis of this sample of pathological data by social (occupational) categories thus discloses only very limited correlation between the frequency of myocardial scarring and the condition of the coronary arteries. This is a further suggestion that ischaemic heart disease is not a simple function of coronary artery disease.

Hypertension was less common and occurred at later ages (10-15 years later) in the heavy occupations than in the rest; the excess of coronary occlusions in light workers was seen in hypertensive cases as in the others; a specially high prevalence of small ischaemic myocardial scars in light workers with hypertension has been described. There are suggestions thus of multiple connections between physical activity of occupation and the blood pressure which need to be followed up.

The expected trend of ischaemic myocardial fibrosis with social class was found, the rate falling from 13.3% in class I through 10.5% in class III to 7.8% in class V. This trend, however, disappeared when the social classes were broken down into categories of physical activity, and the occupations of which each class is composed were graded as 'light,' 'active,' or 'heavy.' Light workers in classes I, II, III, and IV all had similar prevalence of ischaemic scarring, and there was no class trend in the fibrosis among active workers or in heavy workers. On the other hand, the relationship of fibrosis to physical activity of occupation was independent of social-economic circumstances, being evident within single social classes: light occupations in class II showed more ischaemic fibrosis than the active in that class, light skilled workers a higher rate than the active and heavy occupations in class III, the light occupations of class IV more scarring than the active and heavy in that class. The overall trend with social class in this material is largely a function

of the different proportions of light and heavy workers in the different classes.

Evidence has now been produced relating several aspects of clinical and subclinical coronary heart disease to physical activity of work. The general hypothesis may therefore be restated in causal terms that physical activity of work is a protection against coronary (ischaemic) heart disease. Men in physically active jobs have less coronary heart disease during middle-age, what disease they have is less severe, and they develop it later than men in physically inactive jobs. Since there are suggestions of other connections between physical activity of work and cardiovascular disease of middle-age, and multiplying evidence from laboratory experiment of the beneficial effects of exercise on relevant cardiovascular physiology and pathology, the speculation may be advanced that habitual physical activity is a general factor of cardiovascular health in middle-age, and that coronary heart disease is in some respects a depravation syndrome, a deficiency disease. In the present material the hearts of sedentary and light workers showed the pathology of the hearts of heavy workers 10-15 years older.

Perspective. Coronary heart disease among heavy workers, though less common, less severe and occurring later than among light workers, is nevertheless common enough to constitute a major health problem in them: absolutely; and in comparison with the greater freedom from the disease heavy workers, like the rest of the population, seem to have enjoyed earlier this century and in many countries apparently still enjoy."

J. N. MORRIS and MARGARET D. CRAWFORD Brit. Med. J. (1958) 2, Pp. 1494-95.

Acute Myocardial Infarction and the Role of Anticoagulation Therapy

"This thesis was prepared in an attempt to answer these questions:

 What may be expected in the way of decreasing morbidity and mortality by the use of anticoagulation therapy?

- 2. Should anticoagulation therapy be applied universally or only in poor-risk patients?
- 3. How soon after an acute myocardial infarction should anticoagulation therapy be initiated?

This series included 623 patients with acute myocardial infarction as seen at the Ohio State University Hospital during the 16-year period from 1942 through 1957. There were 146 patients receiving adequate anticoagulation therapy, 369 patients not receiving therapy, and 108 patients who received anticoagulants but did not fulfill the criteria established for adequate anticoagulation therapy. A total of 248 patients (39%) died, and autopsies were obtained on 147 patients (59%).

In order to establish the validity of anticoagulants in this study, several of the ancillary methods of therapy, namely, bed rest, oxygen, narcotics, and sedation, were compared before and after 1950 to detect any major changes that may have occurred. There was a close agreement in all of these categories during the two periods studied.

The mortality in the group receiving anticoagulants was 17.1%. The group receiving inadequate anticoagulation had a 20.4% mortality, and the control group had a 54.5% mortality. The total incidence of thromboembolic complications was 5.5% in the group receiving anticoagulants, 17.6% in the group receiving inadequate anticoagulation, and 19.5% in the control group. The incidence of deaths attributable to thromboembolic complications was 1.4% in the group receiving anticoagulation, 3.8% in the group receiving inadequate anticoagulation, and 4.9% in the control group.

Strangely enough, the group receiving inadequate anticoagulation had almost an identical mortality to the group receiving adequate therapy, which would suggest that it does not matter whether a patient receives adequate or inadequate anticoagulation when considering mortality incidence. However, when one considers thromboembolic complications just the opposite would be true. That is, there is no appreciable difference between the patients not receiving anticoagulants and the patients receiving inadequate anticoagulants in the incidence of thromboembolic complications, but there is a marked difference between these two groups and the patients receiving adequate anticoagulants. The obvious discrepancy between the relation of mortality and thromboembolic complications in the patients receiving inadequate therapy cannot be readily explained.

Complications due to anticoagulants occurred in 5.4% of the patients receiving adequate anticoagulations therapy and was responsible for 1.4% of the deaths in the group receiving anticoagulants. There was a 13.3% incidence of hemopericardium in the group receiving anticoagulants and a 4.8% combined incidence of cardiorhexishemopericardium in the control group. Two patients of the group given anticoagulants were thought to have extended their myocardial infarction with subintimal hemorrhage.

We divided our patients according to Russek's criteria for the good-risk patient and had 188 patients, or 30.6%, who fit into this category. The good-risk patients not receiving anticoagulation therapy had a 20.9% mortality, but this was decreased to 3.4% when these patients received anticoagulants. There was a 56.3% mortality in the poor-risk group when no anticoagulants were used, and this could be decreased to 26.4% by anticoagulation therapy. The good-risk patients not receiving anticoagulants had an 8.5% incidence of thromboembolic complications, whereas the good-risk patients receiving therapy had a 3.4% incidence of thromboembolic complications. The poor-risk group not receiving anticoagulants had a 17.5% total incidence of thromboembolic complications, and this could be decreased to 6.9% incidence by anticoagulant therapy.

We have demonstrated that one-sixth of the mural thrombi occur within three days after the onset of an acute myocardial infarction and that one-third have been formed by the end of the first week. Therefore, anticoagulation therapy should be initiated as quickly as possible to prevent these early thrombi from forming.

This study has shown that three times as many of the patients not receiving anticoagulation therapy died as in the group receiving therapy. There were also three times as many thromboembolic complications in the group not receiving anticoagulants as in the group receiving anticoagulants. Even though the mortality and morbidity in the good-risk patients are much less than in the poor-risk group, the good-risk patients receiving anticoagulant therapy had only one-sixth of the mortality and one-half of the morbidity of the good-risk patients not receiving therapy. We have shown that there is danger associated with the use of anticoagulants, but this is negligible compared to the preventable mortality and morbidity. Hence, we feel that all patients with acute myocardial infarctions should receive anticoagulation therapy and that anticoagulants should be started immediately."

FRED G. CONRAD and NORMAN O. ROTHERMICH *Arch. Int. Med.* (1959)

Vol. 103, No. 3, Pp. 104/432-105/433.

Long-Term Anticoagulant Administration After Cardiac Infarction

"There is a clear need for a sound assessment of the balance of risks and benefits derived from long-term continuous anticoagulant administration in the care of patients who have survived acute myocardial infarction. A controlled trial has been carried out to compare the clinical progress of patients given doses of phenindione large enough to double the one-stage 'prothrombin' time (and thus effectively interfere with coagulation) with the experience of a similar series of patients given tablets containing only 1 mg. of phenindione.

The 383 patients who had recovered from the acute phase of a cardiac infarction of defined severity were classified according to their previous infarct history and allocated at random, within each hospital center, to these high and low dosage series. Both groups of patients were seen at regular intervals of about two to three weeks and clinically assessed more fully by x-ray and electrocardigraphic methods every

three months. Laboratory control was maintained by Quick's test of the one-stage 'prothrombin' times, and in the high dosage series the amount of drug administered was adjusted to ensure a level of two or two and a half times the control value.

The reasons for withdrawal from the trial, whether physical, domestic, or personal, were noted for each series.

Three indices of the effectiveness of the regimes were used: (1) death from all causes, from cardiovascular disease in general and from recurrent myocardial infarction in particular; (2) frequency of myocardial reinfarction of varying degrees of severity; and (3) subsidiary data on return to work and the presence of anginal pain or dyspnea at the time of the last examination.

Particular note was made of all incidents irrespective of severity, such as embolism and hemorrhage, which might be affected by anti-coagulant therapy.

Comparisons were made between the outcome in different subgroups of patients and at different stages of the follow-up period which ranged up to a maximum of three years from the date of admission. The analysis showed that:

- Although the death rate was higher in the low-dosage series, there is just the possibility that the difference could have occurred by chance. No difference was apparent in females, but the numbers were too small to exclude such a difference.
- 2. When the infarcts serious enough to cause permanent withdrawal from the trial were added to deaths as a combined index of prophylactic failure there was a significant reduction in their frequency among the males receiving the high doses; and there was a suggestion of a better result in males under the age of 55.
- 3. The same trends appear even more clearly when the total reinfarction rate is used as the basis of comparison. Under the age of 55, males on high doses suffered recurrent infarctions at only one-fifth of the rate of those on low dosage, and over that age the rate is halved by high dosage. These differences are

statistically significant.

- 4. The proportionate reduction in the risk of reinfarction achieved by the high-dosage regime is slightly greater among patients with a previous history of one or more infarcts, but the difference is not statistically significant.
- The difference in the death rate is most evident in the first six months of the follow-up period, but the disparity in the reinfarction rate is maintained for at least two years of the follow-up period.
- More men given the higher doses returned to work during the period and they were more often free from angina.
- 7. There were 15 withdrawals from the high-dosage series because of the onset of conditions actively or potentially associated with hemorrhage. Four major cerebrovascular accidents—three causing withdrawal and one death—were reported among the high-dosage series. Only one patient on low dosage suffered a cerebral hemorrhage, but embolism was a major complicating feature in the terminal illness of three of them. There were 48 minor hemorrhagic incidents in the high-dosage group compared with eight among those on low dosage.

These results have been compared with those in two similar previous studies. The close agreement in many respects with one of these clinical trials is discussed and the implications, etiological and therapeutic, are considered." REPORT OF THE WORKING PARTY ON ANTI-COAGULANT THERAPY IN CORONARY THROMBOSIS TO THE MEDICAL RESEARCH COUNCIL Brit. Med. J. (1959) I:810.

Anticoagulation Therapy on the Incidence of Thromboembolism, Hemorrhage and Cardiac Rupture in Acute Myocardial Infarction

- "1. Analysis was made of the clinical records and autopsy protocols of 100 patients who died with acute myocardial infarction. Fifty were given adequate anticoagulant therapy; fifty did not receive anticoagulants.
- 2. Postmortem examination revealed many errors in clinical diagnosis, both with respect

to the presence of a recent cardiac infarct and of thromboembolic complications. At autopsy, such complications were found with equal frequency in treated and untreated groups. The incidence was not modified by the presence of congestive heart failure.

- 3. Major hemorrhage was observed in six of the treated cases; in three, death was attributed to this cause.
- 4. In 239 patients adequately treated and 557 untreated, assembled by combining this and three reported series, myocardial rupture was found at autopsy three times as often in the treated as in the untreated.
- 5. Because numerous sources of bias are unavoidable when the records of a hospital population are used as the basis of a postmortem study, the results are not suitable for meaningful statistical analysis. However, only by a comparison with autopsy findings can the accuracy of clinical diagnoses be checked. The present study has demonstrated trends which seem definite."

NICHOLAS E. CAPECI, and ROBERT L. LEVY The Am. J. of Med. (1959) Vol. XXVI, No. 1, P. 79.

Heredity, Environment, and Serum Cholesterol

"Evidence is increasing that genetic factors are important in determining the serum cholesterol concentration at both normal and elevated levels. The gene or genes for cholesterol level determination are apparently not sexlinked. The genetic determination of serum cholesterol and other lipid levels does not exclude the possibility and probability that environmental factors may be effective in influencing the serum cholesterol level.

The observations presented in this paper suggest the necessity for revising the definition of hypercholesteremia. Because of the role of age and sex in regulating cholesterol levels it is apparent that average and 'hypercholesteremic' standards must be computed for the population sample under study and corrected for age and sex.

With the establishment of adequate standards

accurate screening of the population for persons who have an increased tendency to the development of hypercholesteremia becomes feasible. Members of hypercholesteremic families may be identified early in life and kept under medical supervision. Obesity should be controlled. The steady use of a low-fat diet, in line with present thinking, is probably justified.

As in other inherited metabolic faults (diabetes, gout), control of abnormal lipid metabolism will be developed with better understanding of the metabolic error involved. Such therapeutic possibilities may include dietary regulation, hormones, and other drugs.

In investigating the genetic control of serum cholesterol level 1,236 healthy persons, including 775 members of 201 families, were studied.

Analysis of the data derived from this study indicates that there is an important genetic component in the determination of serum cholesterol level in healthy persons; the gene is probably not sex-linked.

Environmental factors appear to play a less important role."

LOUIS E. SCHAEFER, DAVID ALDERSBERG
and ARTHUR G. STEINBERG

Circulation (1958) Vol. XVII, No. 4, Part One, P. 541.

Adrenal Cortex and Winter Sports

"Morning and evening eosinophil counts performed on a healthy adult over a period of six weeks which included a three-weeks skiing holiday showed a daily fall in circulating eosinophils amounting to 50-80%, according to the amount of exercise. The response diminished in the third week in association with improved physical condition. Confirmation was obtained in two other subjects.

Results are presented concerning other forms of exercise. In Channel swimming virtual disappearance of the eosinophils and an eightfold rise in urinary 17-hydroxysteroids, reported elsewhere, suggest an adrenal cortical response comparable with that found in major surgery."

L. G. C. E. PUGH

Brit. Med. J. (1959) I:344.

Hypersensitivity Myocarditis Occurring with Sulfamethoxypyridazine Therapy

"Since the onset of sulfonamide therapy, a number of reports concerning allergic manifestations towards these drugs have been published. One has only to study Simon's extensive review of the literature up to 1943, to get an idea of the frequency and variety of lesions reported after the administration of these drugs. Among the various types of lesions described. myocarditis has taken a prominent place. In a study of autopsy material at Ann Arbor, French and Weller noticed a large number of cases with interstitial myocarditis, characterized by eosinophil cellular infiltrations for which the usual etiologic factors appeared to be lacking. After careful analysis of their material, they concluded that these changes were probably secondary to sulfonamide medication, the only factor known to be common to all cases. They were able to produce similar lesions, although more focal in nature, in experimental animals through the daily administration of various sulfonamides in doses comparable with the usual human dose in terms of body weight. The inflammatory changes in the heart muscle of patients were seen after a total dose of as little as 5 grams, but no lesions were found where the use of the drugs had been discontinued for more than 30 days before death. The microscopic findings consisted of a cellular infiltration of the interstitial network with large mononuclear cells of clasmatocytic type together with numerous eosinophils. More, McMillan and Duff, in a study of 22 cases in which lesions found attributable to sulfonamides, describe two morphologically different reactions in the heart muscle: granulomatous lesions and those characterized by an acute interstitial inflammatory reaction. The granulomata consisted of a closely packed arrangement of large mononuclear cells. Eosinophils, when present, were sometimes very numerous. Rich, in a recent review, has emphasized that the hypersensitivity reaction can not only manifest itself as an ordinary inflammatory lesion, but also may take the form of a tuberculoid lesion with typical epithelioid and giant cells. Miliary foci of

necrosis were described by French in many organs, among which were the spleen, lymph nodes and bone marrow. In his recent text on systemic pathology, Saphir describes the myocarditis found in so many hypersensitivity reactions as a specific entity, characterized usually by the presence of many eosinophils, although occasionally allergic granulomas can be found within the heart muscle.

The profound eosinophilic character of the lesions found in our three cases strongly suggests a hypersensitivity reaction induced by a drug. This impression is further strengthened by the close histologic similarity between these changes and those described by others. After careful perusal of the hospital records it became evident that all three patients had received sulfamethoxypyridazine, a sulfonamide compound of relatively recent development. The only other drug given in common was chloral hydrate but, considering the known sensitizing properties of sulfonamides, particularly in reference to the development of an allergic myocarditis, it is only reasonable to assume that the sulfamethoxypyridazine was responsible for the myocardial changes. We believe that it is also significant that all three cases occurred within a relatively short period of time, and that identical lesions in the heart have not been found in this hospital before."

A. J. BLANCHARD and G. A. MERTENS

The Canad. Med. Assoc. Journal (1958)

Vol. 79, No. 8, Pp. 629-30.

Degenerative Cardiovascular Disease in the Orient

I. Atherosclerosis "This study has served to point out that no Oriental race studied is immune from aortic atherosclerosis and that severe disease can exist in the Orient in appreciable quantities. On the other hand, the almost universal incidence of some degree of aortic atherosclerosis seen in Western populations is not found in these Oriental people. The study adds nothing new to the idea that coronary arterial disease with occlusion is less frequent in most Oriental cities than in European ones,

but it indicates that the disease exists in larger numbers than is often realized, especially in two Japanese cities. It has served to emphasize the extraordinarily high incidence and local variations of cerebral vascular accidents in Japanese as compared to Chinese and other races. Furthermore, it contains suggestions and indications that food habits regarding dietary fat bear little relationship to the occurrence of atherosclerosis and its complications. And it has pointed out areas for careful ecologic studies which might throw light on the pathogenesis of atherosclerosis, a disease which may well be the effect of factors other than those considered here.

The incidence of atherosclerosis and of its complications was briefly studied by autopsy and clinical statistics in eleven Oriental cities. Aortic disease is quite common, although varying in frequency and severity from place to place; coronary and cerebral arterial disease were found everywhere. It is unlikely that national habits regarding dietary fat can be considered as sole or major etiologic agents, for in some areas low intakes of fat were associated with high incidences of disease."

II. Hypertension "The incidence of arterial hypertension and its serious consequences were studied in 13 teaching hospitals in 10 Oriental cities. Hypertension was found in all places and was a serious medical problem in most. Its presence appeared unrelated to crude dietary factors such as the intake of sodium chloride or to the obvious influences of Western Civilization."

HENRY A. SCHROEDER, M.D. Journal of Chronic Diseases (1958) Vol. 8, No. 3, Pp. 310, 332.

Antibiotic Prophylaxis in Patients with Acute Heart Failure

Patients with acute heart failure appear to be particularly susceptible to the development of pneumonia, which is frequently difficult to differentiate from failure by physical or x-ray examination. This study was performed to ascertain whether prophylactic administration of

antibiotics would prevent pulmonary infections in these patients.

With the use of a double-blind technic, 72 randomly-selected patients were given 2 gm. of chloramphenicol daily for a week, and 78 received placebo. The groups were comparable in age, sex, race and etiology of the congestive heart failure. There was no difference in the clinical course as measured by venous pressure, circulation time, vital capacity, weight loss and symptomatic improvement. Fever attributable to heart failure per se was present in 42 percent and occured more frequently and was of longer duration in the controls. White-cell counts were elevated above 10,000 on the basis of failure in 44 percent and were not affected by antibiotics; counts above 15,000 were unusual. There was no relation between occurrence of fever and leukocytosis.

Thirty-eight patients died, 21 in the antibiotic and 17 in the placebo group, and 8 in the former and 6 in the latter had pneumonia clinically or at autopsy. Of these 14, 4 recovered after administration of penicillin (3 on placebo and 1 on chloramphenicol), and 10 died (3 on placebo and 7 on antibiotic). In 6 patients infection in the lungs was incidental to other causes of death, but in 4 (1 on placebo and 3 on antibiotic) is was a major factor. These findings indicate that prophylaxis with antimicrobials was not effective.

Pneumonia was present in 10 of 28 patients in whom it was suspected on the x-ray film of the chest and was missed by the radiologist only twice in 112 patients. These findings suggest that radiologic examination remains a relatively accurate method of detecting pneumonia in patients with pulmonary congestion. Other important clues are purulent sputum, temperature above 101°F. for at least three days and a white-cell count over 15,000.

Adverse reactions to chloramphenicol were noted in 6 patients, 2 of whom contracted severe staphylococcal enterocolitis. These observations do not support the suggestion that antibiotics be given routinely to patients with congestive heart failure. Instead, special care should be taken to discover pulmonary infec-

tions early and, once they are detected, to treat them vigorously with appropriate antimicrobials.

> ROBERT G. PETERSDORF, M.D. and RICHARD K. MERCHANT, M.D. New Eng. J. of Med. (1959) Vol. 260, No. 12, Pp. 573-574.

Mitral First Sound

"To the Editor: In the January 9 issue of the Journal, in the Case Records of the Massachusetts General Hospital (Case 44021), reference is made several times to the opening snap of the mitral first sound. There is confusion in the minds of many students, house officers and some practicing physicians between the snapping first sound and the opening snap of mitral stenosis. The first sound is, of course, due largely—if not wholly—to closure of the atrioventricular valves, whereas the opening snap is associated with opening of the valve and occurs in early diastole.

The only reason for calling attention to this mis-statement is that it tends to perpetuate the already existing confusion.

Norman H. Boyer, M.D., Boston Dr. Boyer's letter was submitted to a cardiologist, who offers the following comment:

To the Editor: Dr. Boyer is perfectly correct in stating that this description of the opening snap of the mitral first sound should not have appeared in the protocol. In the discussion of the case, I believe we disregarded the reference to the first sound, and thought only in the usual terms of the opening snap as the fourth component of the second sound.

The snapping character of the first sound in mitral stenosis is due to the flapping over of the free belly of the valve in early systole. As he has pointed out, the opening snap is the reverse of this movement when atrial pressure is greater than ventricular at the beginning of diastole.

If, as he says, this confusion exists in the minds of some physicians, it is desirable to point out the difference."

> The New Eng. Journal of Med. Correspondence (1958) Vol. 258, No. 19, P. 964.

Cortisone and Corticotrophin in Ulcerative Colitis

"A therapeutic trial of corticosteroid therapy in non-specific ulcerative colitis has been carried out in ten hospital centers.

In the first part of the trial, which involved 169 patients admitted to hospital with a frank attack of ulcerative colitis, a comparison was made between the effect of oral cortisone in a dose of 50 mg. q.d.s. and that of intramuscular corticotrophin in a daily dose of the gel.

For the group as a whole, corticotrophin proved to be more effective than cortisone in bringing about complete clinical remission in the course of six weeks' treatment. Further analysis showed that corticotrophin and cortisone gave closely similar results in patients admitted in first attacks of the disease. Among patients admitted in a relapse of established disease, corticotrophin was much superior to cortisone, there being twice as big a proportion of patients rendered symptom-free during the trial period.

Complications were numerous and some were attributable to corticosteroid therapy. Corticostrophin-treated patients were more liable to show hypercortisonism, mental disturbance, peptic ulcer complications, and monilial infections.

Deaths during the trial period or shortly after were roughly equal in the two treatment groups, there being five deaths among the patients treated with corticotrophin and seven among those treated with cortisone.

In the second part of the trial, patients who were symptom-free at the end of the trial period of treatment with corticotrophin or cortisone were put on maintenance treatment, which lasted for a year unless a relapse or the disease supervened. This part of the trial was a 'double-blind' study in which some patients were treated with cortisone tablets, 25 mg. b.d., while the remainder received inert tablets.

Cortisone, in the dose used, proved to have no effect on the liability to relapse of the disease during the year of observation.

The other important finding during this period was that patients treated in the acute attack with corticotrophin were more liable to relapse than patients who had been treated with cortisone. The superiority of corticotrophin in bringing about clinical remission of the acute attack is therefore partly offset by the greater chance of subsequent relapse.

In the third part of the trial, a number of the patients who relapsed during the year of maintenance were treated openly with cortisone. The results were similar to those obtained with cortisone in the original attack. In other words, patients who have previously responded well to corticosteroid therapy are neither specially likely to respond well when a subsequent attack of the disease occurs nor likely to be unduly refractory to corticosteroids.

The essential conclusions are: (1) There is little to choose between corticotrophin and cortisone in the treatment of a first attack of ulcerative colitis. (2) In a frank relapse of established ulcerative colitis corticotrophin is superior to cortisone in bringing about a fairly speedy clinical remission, but at the cost of a greater risk of complications and of a higher risk of subsequent relapse. Consequently it may normally be best to begin with cortisone and to hold corticotrophin in reserve for use in patients who do not respond well. (3) Maintenance treatment with cortisone in a dosage of 25 mg. b.d. is totally ineffective in reducing the liability to relapse."

S. C. TRUELOVE and L. J. WITTS Brit. Med. J. (1959) I:393-94.

Adrenal Steroids in Subacute and Chronic Cholangiolitic Hepatitis

"Adrenal steroids do not seem to affect the basic disease process in chronic and sub-acute cholangiolitic hepatitis."

MOSHE B. GOLDGRABER and JOSEPH B. KIRSNER Arch. Int. Med. (1959) Vol. 103, No. 3, P. 39, 367.

Triamcinolone in the Treatment of Psoriasis

"Triamcinolone is evaluated as therapeutic agent for chronic recalcitrant psoriasis in 34 patients under experimental conditions. The results indicate that, while triamcinolone is a potent and valuable drug in the treatment of psoriasis, its value is limited because of untoward reactions encountered when effective doses are given and recurrences occur upon withdrawal of the agent."

MAX R. GREENLEE, and WILLIAM L. EPSTEIN Arch. of Derm. Vol. 79, No. 3, P. 141, 351.

Suppository Treatment of Haemorrhagic Proctitis

"Haemorrhagic proctitis is a disease of unknown etiology in which the rectum is diffusely inflamed so that bleeding occurs spontaneously or with slight trauma, as, for example, during defaecation. If the inflammation extends into the sigmoid colon, the term proctosigmoiditis is employed. In our present state of knowledge it is best to regard haemorrhagic proctitis and proctosigmoiditis as localized distal forms of ulcerative colitis.

Suppositories containing water-soluble compounds of hydrocortisone and prednisolone have been used to treat 22 patients.

Rapid and complete symptomatic relief was obtained in 14 of these patients, such relief being accompanied by notable improvement in the sigmoidoscopic appearances, which usually became normal.

The best results were obtained in fresh cases of the condition, the treatment being uniformly successful in the seven patients of this type included in the series.

The treatment has the virtues of easy application and low dosage of steroids, so that sideeffects are most unlikely to occur."

> S. C. TRUELOVE Brit. Med. J. (1959) I:958.

As the only state-operated general hospital in Texas, this 900-bed center receives patients from nearly all the state's 254 counties.

University of Texas Medical Branch Hospitals



John Sealy Hospital, central MBH unit.

In 1864 the first medical school in Texas was established on a narrow island in the Gulf of Mexico, two miles from the mainland. Twenty-six years later the school became the medical branch of the University of Texas. Today it is a large complex, functioning as a general hospital, research and educational center.

The campus of the University of Texas-Medical Branch Hospital is contained within an eleven block area, one mile from downtown Galveston. Though the state university's main campus is 200 miles away in Austin, the Medical Branch embraces all of the personnel and facilities of the Schools of Medicine and Nursing, and various educational programs for other members of the health team.

Of the 40 buildings on the Galveston site, 12 house the clinical and service facilities of the Medical Branch Hospitals. The main units are John Sealy Hospital, Rosa and Henry Ziegler Hospital, Children's Hospital, and the Psychopathic Hospitals. Despite their distinctive names, they are centrally administered as a single hospital.

John Sealy

John Sealy Hospital is the central unit. Built in 1954, this nine-story air-conditioned structure houses most of the administrative, diagnostic, therapeutic and service facilities for the Medical Branch. It is named for a benefactor of Texas medicine, as was the previous central unit, the "old" John Sealy Hospital.

The program of physical development is continuing. Two buildings are being substantially remodeled to house psychiatric patients, and plans are being developed for the renovation of the existing Outpatient Department. In the future lies the construction of additional



Left, surgical team at work in one of 11 operating rooms at MBH. Below, medical ward rounds, an important part of house staff program.





Above, Bethel Hall, new, air-conditioned residence for single house staffers. Right, Classroom, laboratory and hospital buildings of the University of Texas — Medical Branch Hospitals at Galveston, Texas.



facilities for outpatient clinics and diagnostic departments.

Programs

As the only state-owned and operated general hospital in Texas, Medical Branch Hospitals receive patients from nearly all of Texas' 254 counties as well as an increasing number from outside the state. Each year an average of 14,000 patients are admitted for diagnosis and treatment to receive 285,000 days of care in the 900 beds for adult and pediatric cases. In addition, some 1400 babies are born in the Hospitals annually.

The Outpatient Department offers a wealth of interesting clinical material in the 101,000 patient-visits which are annually made to its 28 clinics. In addition, over 18,000 patients are treated in the active Emergency Room.

Facilities and clinical material of the Hospitals are used in the educational programs for registered nurses, vocational nurses, x-ray technicians, medical technologists, operating room technicians, physical therapists, electroencephalography technicians, and medical record librarians.

Library

Library resources available to members of the house staff far surpass those of the average large general hospital, as the combined libraries of the School of Medicine and the School of Nursing are readily accessible in the Gail Borden Building adjacent to the Outpatient Build-



Above, staff doctors relax on the "beach service."

Below, intern, his wife and "family" enjoy moment of togetherness in their Nolan Hall apartment.



ing. This campus library contains 79,000 bound volumes, receives 1,700 periodicals.

Throughout the South, Galveston is recognized as a recreation center. Each year thousands of tourists visit "The Treasure Isle" to enjoy its resort hotels, seafood restaurants and 30 miles of sandy beaches. Swimming, sailing, deepsea and surf fishing, and waterskiing are popular pastimes.

Although Galveston provides all of the cultural and recreational activities one might expect to find in a city of 70,000, still more resources are available only one hour away in Houston, Texas' largest city. Personnel from the Medical Branch often take this short drive over the Gulf Freeway for sports events, concerts, and theatrical productions.

TEXAS-MEDICAL BRANCH HOSPITALS OUTPATIENT CLINICS

CLINIC	PATIENT VISITS	DAYS	HOURS
			1- 5
Allergy Adult	1,510	Wed.	
Pediatric		Tues.	8-14
Arthritis	810	Thurs.	8-12
Chest	5,230	MonFri.	1- 5
Dental	3,780	MonFri.	8-12
Dermatolog	y &		
Syphilolog	gy 5,600	MonFri.	8-12
Diabetic	1,970	Fri.	1- 5
Ear, Nose	and		
Throat	4,540	Mon., Wed., &	
		Fri.	1- 5
		Tues. & Thurs.	8-12
Endocrine	310	Mon.	1- 5
		Mon., Tues., Th	urs.,
Eve	4,910	& Fri.	1- 5
Gastrointesti	inal 540	Wed. & Thurs.	1- 5
Gynecology			
Regular	.,,	Mon., Thurs., &	
*repairs		Fri.	8- 5
		Tues.	8-12
Tumor		Tues.	8- 5
Post-op a	nd		
Postpartu		Wed.	8-12
Hearing	630	(By Appointmen	t)
Heart	2.290	Mon. & Thurs.	1- 5
Hematology	490	Tues.	1- 5
Hypertension		Wed.	1- 5
Medicine	16,280	MonFri.	8- 5
Neuro-Psy-	10,200		
chiatry	4,740	MonFri.	1- 5
Neurosurgery		MonFri.	8-12
Nutrition	580	Tues.	8-12
Obstetrica	4,800		
Normal	4,000	Mon., Thurs., &	
		Fri.	8- 5
		Tues.	8-12
Abnormal		Wed.	8-12
Sterility		Tues.	1- 5
Orthopedics	4,540	MonFri.	8-12
Pediatrics	14.830	MonFri.	8- 5
Plastic Surge		MonFri.	8-12
Radiation	1,030		- 10
Therapy	2,730	(By Appointmen	(1)
Surgery	5,400	MonFri.	8-12
Tumor	150	Mon., Wed., &	- 10
r dillor	130	Fri.	1- 5
Urology	4,960	Mon., Tues., Thu	
Crology	4,900	& Fri.	1- 5
TOTAL	101 100	- 2 3 40	

TOTAL

One of the best things you can do to improve your own medical practice is to do a bit of medical writing. Believe me, you will never realize how dumb you really are, until you try to put your thoughts about disease into written form. I can tell you about being dumb with great authority for I am blessed with a native stupidity that makes the most simple fact seem complex. As Pogo would put it, I am a "bone-an-fried Hippocratical Oaf." But just wait until you start to write. Even so, you ought to do it. You see, thinking is one thing that the human animal avoids like sin.* It hurts. But you cannot write about disease unless you think about disease and this thinking is going to make you a much better doctor.

In this little article I am going to set forth some utterly worthless facts about medical writing and about the gentle art of how to get it published. Truthfully, what you think may be of service to other doctors. And, as you are going to go through the agony of thinking, you might as well get credit for it and get your name in the paper.

Now don't snort and say "Who the h - - - wants his name in the paper?" We are all egotists. Every time I see that nice line "by Paul Williamson, M. D.," I smirk a bit and tell myself, "Now there's a wise fellow."

The first thing to do when you decide to write is to acquire pencil and paper. Do not start by acquiring a beautiful secretary. It is not that your wife wouldn't understand. The bare fact is that she will understand only too well what you have in mind.

ON MEDICAL

PAUL WILLIAMSON, M. D. Dickinson, Texas

Next, pick a title. Avoid at all costs a stupid, uninformative title like "On Medical Writing" or some other ambiguous, meaningless phrase. Your potential readers are barraged with literature but they usually do scan titles. A short, arresting title will double your readership.

Avoid, too, the title that is longer than the article—

Observations on the Relationship Between the Mating Habits of the South African Butterfly and the Anovulatory Cycle of the Human Female of Caucasian Descent. by Wilberforce Dungdrop, M. D.

There is no relationship!

It is best if the title you pick has some relationship to the subject matter of your article but, if you will scan the journals, you will find that it is not considered absolutely necessary. As a matter of fact, the editor will probably discard your title and add one of his own. So it makes no difference.

Pay no attention whatever to the utter balderdash you hear about "contributing to the literature." What the average doctor needs to read is something that is useful to him, not a diatribe on some esoteric research project, or a statistician's nightmare. In your subject matter stick to the common and everyday things and you will have readers.

I cannot emphasize that point too much.

^{*}After consideration I am inclined to believe we may avoid it more.



Most journals are filled with trash about trivia. The response to 50 mgms. of Cortone in 3½ patients with suspected Buttenpuffer's syndrome is about as useless a subject as anyone could conceive and yet thousands of articles just about this weighty cram the pages of the journals every day.

There are some journals published for practicing physicians. They have an interesting and typical course. In the beginning the editing group works hard to make them practical and useful. They finally get quite a readership and then they get delusions of grandeur. So they begin to get more erudite and more useless with every edition.

Keep your writings practical and applicable and send them to the journals that are still trying to serve the reader instead of politicing among the medical greats by means of manuscript acceptance. It is much more important that the everyday doctor have a good review of cardiac murmurs than that he read of a new Bengal nylon cardiac catheter. To put all this in more forceful form, it is not necessary that you discover a cure for cancer or an improvement on sex in order to write an article. Pick a simple subject and review it well.

In writing remember one fact. The measure of your worth or mine as doctors is our ability to simplify instead of making more complex. Any fool can design an experiment or write a phrase to add one more complexity to an already difficult subject. It takes real brains to make something simple. Try to achieve this in your writings.

My dad was a very great writer (not in medicine). He very often told me that the final goal of an expert writer is to make things deceptively simple. You couldn't get better advice. If you achieve it in a few articles your own standard of medical practice will improve by leaps and bounds. Now, to the writing itself.

Most medical articles are made up of trite phrases, long sentences, admixed and cemented together with large gobs of pedantry. From a writer's standpoint they are hopeless. And you can be almost certain that, if a good commercial writer finds them difficult, the reader will, too.

Just say what you have to say in plain English using short sentences and short paragraphs. Avoid the scholastic masterpiece—a sentence of 500 words. And don't use the stock phrases.

The phrase that just irritates the fire out of me is "give the patient the benefit of." Of course, the patient may drop dead from the benefit of the particular therapy in mind but the trite, schoolteacherish phrase appears in many medical writings. What is usually meant is "we were at the end of our rope and didn't know what to do, so we tried . . ."

Most medical writers are frightened nearly to death of the descriptive phrase. You see, it ain't scientific. But it works. Sometimes you make your meaning more clear by saying "that gal shook like a leaf" than you do by saying "the patient sustained a moderate rigor."

Your object in writing is to get your idea over to the reader—not to satisfy a series of writing rules. As a matter of fact the rules just sort of "growed" by accident. Nobody really thought them through.

There is some logic in using a narrow range of expression when translation is envisioned or when an article is expected to live for several hundred years. There is no reason to restrict expression when most readers are expected to read the article through once.

Within the bounds of good taste (often rigorous good taste, for most doctors are rugged people) use any device you can think up to impress a thought on the reader. Some vulgarity is acceptable, slang has its use, silly examples, jibes, or any other thing. Just don't overdo it as I do sometimes.

Let me give you an example which I have used in an article: Instead of telling a surgeon to handle abdominal contents with care I told him that, when the abdomen was finally open 'not to plunge into it like a hog into a slop bucket.' Most surgeons have never seen a hog plunge into a slop bucket but they manufactured a vivid mental image. The idea stuck with them.

There is no subject within the range of your own experience or speculation upon which you cannot write. However, don't make the common error of failing to define what parts of your work are due to observation and what parts to speculation.

In your writing try to talk to your audience rather than pontificating at them. Some doctors find it easier to speak informally into a recording machine and then edit the transcript. The way I do it is this:

My little group consists of myself, my wife, Ann, who is our medical artist and photographer, and Kate Broach who serves as manuscript editor. We have an article schedule calling for twenty-four publications yearly but we usually write six to eight at one time.

We have periodic bull sessions at which we just talk about medical practice until an article idea suggests itself. After we have mentioned six or seven subjects we break off the session and forget about the work.

In the ensuing few days Kate looks up the necessary references and makes a digest of salient facts to put on my desk. I dictate the article and forget it. Kate edits it for grammar and accuracy and then it goes to Ann for checking and illustration. Then to a publisher.

We don't use the 'deep freeze' method. But I was a commercial writer for ten years before doing any medical work. We strongly recommend that the beginning writer adopt it. When you have finished an article put it away in the file and under no circumstances look at it for at least ninety days.

When you do take it out for re-reading the usual first reaction is "My Gawd! Did I write that?" Then you can redo the whole thing and probably improve it greatly.

There is one thing which many new writers do not understand. It is the flow of an article that is important, not the individual sentence structure. You can take an isolated sentence from Hemingway or Shakespeare and it sounds crude and poorly written. In context it fits fine. Remember that fact!

If you forget the general flow of an article and spend hours revamping each individual sentence the result is going to be a series of excellent sentence structures haphazardly nailed together. Such a mess is very hard to read and the average physician will not struggle through it.

Another common error is an attempt to say too much. The super-scientist who attempts to take into consideration every possible angle of a general subject only succeeds in making a fool of himself. He can engraft some of his own confusion on his readers—if there are any.

Don't be afraid that other doctors will think you don't know about a thing if you don't mention it. There are two types of people who will read your article. The first is the physician who really seeks to learn something from it. He will be critical only when you make a mistake. When you do, you deserve criticism.

The second type is one of the real queer birds of medicine. Although he has accumulated much factual knowledge he is a failure as a doctor. His ego is wounded by this and he falls back on his accumulation of facts as a balm to his pride. He will literally tear your work to shreds as a means of proving his own superiority.

It is a great tragedy that the medical associations and medical schools are crowded with such people. They seem to gravitate to organized medicine and to nest in flocks around the schools. It will sometimes be hard to follow the advice of St. Paul and "suffer fools gladly," but we must.

Let me say a few words on erudition in writing. Many doctors use a pseudo-erudition as a sort of mental falsie to make them look bigger than they are. If you are really erudite you won't have to search the dictionary for big words to prove it.

Just remember, pachydermian ponderosity is for the elephants. Readers like little, simple, accurate words put down one after the other.

How about the rejected manuscripts? There are several points to consider. First, if the manuscript is poor any editor will reject it. When you get an article back first read it over very carefully. Chances are you will see why it was rejected.

It is true that there are many journals which refuse even the best articles unless 1) the author is highly placed in a particular select group, or 2) the author is highly enough placed in medical politics to give the editor trouble. You will understand why I cannot list them for you here.

About half the extant journals accept manuscripts on merit. You will soon learn which is which. By all means stick with those publications which are interested in merit.

Another common reason for rejection is a matter that is out of the hands of both editor and author. Journals are planned many months in advance and only those articles that fit in with the general schedule can be accepted. Many times an editor will write you a letter saying that your article does not fit his schedule. This is not a dodge. It is the truth.

Actually, it makes little difference if all your manuscripts are rejected. The labor you expend in writing and the accompanying reading and thinking will make you a better doctor.

Now, suppose you quit reading this drivel and try to write an article. If nobody else will pay any attention to it, send it to me. I need some new sources to steal from, anyway, and it might as well be from you.

Box 788



LOVE and HATE in the Doctor's Office

Better think twice when you find emotion rather than reason dominating your relationship with the patient.

JOHN A. EWING, M.D. Chapel Hill, North Carolina

You'd think a doctor's office about the last place to find *romantic* love at first sight. You'd be right, of course, yet similar blind raw emotions do appear regularly in this setting. Not romantic, but real.

Although less talked about than love at first sight there is another blind emotion which can appear equally suddenly—hate at first sight. And these emotions, sudden and forceful, do occur in the doctor's office and are relevant to the practice of medicine.

For example, Dr. Jones' nurse is just showing a new patient, Mrs. Johnson, into his office. As he greets her he gets a sinking feeling. Mrs. Johnson bears a vague resemblance to that Mrs. Black who was such a trial to Dr. Jones some years back.

If he is to be blindly swayed by this emotion Dr. Jones greets Mrs. Johnson somewhat gruffly. Already he feels vaguely hostile and is wondering if she's out to put something over on him. From this point on, things may go from bad to worse, with Mrs. Johnson detecting the doctor's coolness and resenting it.

However, if Dr. Jones is in the habit of observing himself he will ask himself why he feels so angry with this woman—apparently spontaneously. If he's lucky he'll recall Mrs. Black (perhaps with a shudder) and will readjust his thinking and feeling about his new patient, realizing that she stirred up a dormant memory.

Even if the course of events shows that Mrs. Johnson is indeed like Mrs. Black—in personality, for example, and not just in appearance—Dr. Jones will still be better able to handle the relationship. He will use his awareness of the similarity between these two women to avoid the pitfalls which occurred with Mrs. Black.

Of course it is possible for patients to stir up memories of other people than the physician's former patients. If the doctor is unaware of the memories which are echoing within him he may react blindly at any time. Awareness of what is happening will enable him to control the situation.

This can best be illustrated by considering the effects of a single patient upon three different doctors, each of whom the patient consults in turn.

Placate

The patient is a 55-year-old, wealthy executive who lives under great pressure. He is quite bombastic in his approach to the doctor, tries to dominate him as he does his employees,

wants a hurried examination, quick results.

The first of these three doctors, Dr. Brown, has just been in practice as an internist for a short while and feels a real need to please this wealthy patient who might refer many more wealthy patients. Because of this, whether he knows it or not, he begins to give in to the patient.

As he performs his hurried examination in response to the patient's demands, he tries to placate him with some soothing remarks, but he is clearly unsure of himself and the patient quickly detects this and looks down on him in consequence.

These factors are all important. However, Dr. Brown can be conscious of them and can do something about them. Unfortunately, his insecurity with this patient stems from something much deeper than just a desire to please a wealthy patient. Dr. Brown is unconscious of the fact, but this patient reminds him of his father who had a similar domineering character. Not realizing that this patient is acting like his father, Dr. Brown reacts toward the patient as if he were his father. Giving in, being placatory, and attempting to soothe were all routine methods he used in dealing with his father. Now, he is using them in a professional relationship, which clearly will not last.

Authoritative

Now, our same patient goes to Dr. Green. Dr. Green is an older, more experienced, and more secure internist, but these factors are far less important than that Dr. Green, too, is reminded of his father. However, in his childhood relationship with father, Dr. Green was rebellious. Unfortunately, Dr. Green does not realize that this patient reminds him of his father, but now is his chance to get his own back!

Dr. Green becomes authoritative. He insists the patient must go to hospital. When the patient attempts to protest that he is a busy man, Dr. Green tells him he must do as he is told or else. . . . !

Dr. Green insists upon "complete rest" and no bedside telephone, etc. Because he is reacting to unconscious factors, he fails to recognize that this busy executive will be much more tense and anxious and will probably have a higher blood pressure under this regime than if he were allowed a less restrictive program. It is obvious to use that this professional relationship is not a healthy one either.

Firm

Next, our patient goes to see Dr. White. Dr. White, too, sees this patient as a dominating father-figure but recognizes this fact. Dr. White's age and his experience are of no importance to us compared with his ability to see the patient for what he is and to recognize what the patient means to him.

Dr. White looks behind the blustering veneer of this patient and recognizes an anxious man —a man who hides his dependency cravings behind aggression. Because he is conscious of the total situation Dr. White is able to be firm and persuasive, but does not let his emotions run away.

He performs his examination and then advises the patient firmly but not rigidly that a

ABOUT THE AUTHOR

Born and educated in Scotland, the author was graduated from the School of Medicine of the University of Edinburgh in 1946. Beginning a psychiatry residency in England in 1947, he received the University of London's Diploma in Psychological Medicine in 1950. Coming to the United States in 1951, he worked in a state hospital as senior physician, and as psychiatrist in North Carolina's Alcoholic Rehabilitation Center for three years.

Author of papers in several psychiatric journals and in the New England Journal of Medicine, British Medical Journal, Medical Economics, Medical Times, and others, Dr. Ewing is presently assistant professor of psychiatry, University of North Carolina School of Medicine, and director of the psychiatric inpatient service, North Carolina Memorial Hospital.

fuller examination in hospital is required. He agrees to permit the patient to use the telephone and promises to let him return to work as soon as it seems possible. In face of the patient's attempts to dominate the situation Dr. White does not respond with any threats. Dr. White has utilized his feelings by first recognizing them. Actually, as we have seen, his feelings originated in the type of patient and what this type of patient means to him. However, he has reacted with understanding and tolerance only because he first recognized the dominating

father-figure in this patient and, recognizing it, he did not respond with blind emotion.

Control

Returning then to our first theme we must recognize that we, our nurses, our secretaries, may respond with blind emotion to the personality of our patients. Anytime we find a feeling appearing for no conscious reason we must look very carefully at ourselves and at the person provoking the emotion to see if we cannot find a reason and thus control the situation.



ADULT CHRONIC BRONCHITIS— CONTINUOUS ANTIBIOTIC THERAPY

"The results of an 18-months follow-up of 42 patients with chronic bronchitis, when treated with or without oxytetracycline for periods of varying duration, are presented.

Continuous and prolonged antibiotic therapy for one year or more not only prevents relapse in chronic bronchitis but increases the rate of improvement the longer the therapy is maintained.

Acute exacerbations of chronic bronchitis assume major proportions during the autumn and winter, particularly between September and February, when 80% of relapses tend to occur.

It is suggested that continuous therapy with oxytetracycline for one period of about six months each year, to include the period of maximum relapse, may prevent exacerbations and maintain most bronchitics in effective and useful employment."

> GORDON EDWARDS and E. C. FEAR Brit. Med. J. (1958) II, 1012

Why Some Medical Practices Decline

A once thriving medical practice may suffer a painful decline in patients and gross receipts. Despite mounting costs, fees may be frozen at an unrealistically low level. If this situation cannot be traced to some fault or shortcoming of the physician, he may need to consider his environment and the changes which, almost imperceptibly over the years, have been taking place, and over which he has no control.

Another practice may not decline but fail to grow to the degree reasonably anticipated years earlier. For the physician, this stunting may be just as disastrous as the practice, once large and profitable, which is now withering away. In either case the physician is being denied the full fruits of his professional training and earlier sacrifices.

The time was when a young physician could start his practice and continue it in the same immediate area, if not in the same physical location, for his entire professional life. Such changes as might take place during the life of the practice were more often beneficial than not.

Now a medical practice at any stage of its life may be exposed to many situations which can blight it despite anything the physician can do. Traditional methods employed to preserve a practice may not be enough. A physician may now need to review periodically the external influences which are changing his practice with the passage of time. A physician studying several years' earning records, and unhappy with the dismal outlook for the future, may indulge in useless self-criticism. The blame may lie elsewhere. He might better make a critical analysis of his neighborhood, community or city. There may be powerful economic forces at work against which his efforts are no match.

Changing Buying Habits

Consumer buying habits continue to undergo revolutionary change. It is foolhardy for a physician to assume these same buying habits cannot affect his practice. A customer who ceases to patronize downtown department stores and specialty shops very likely will stop going to a physician in a downtown location.



If a consumer experiences irritating difficulties in going downtown, due to inadequate public transportation, high fares and crowded vehicles, or insufficient curbside parking facilities, driving tensions and traffic delays, these difficulties are no less for a patient. Once buying habits are changed they are likely to be all-inclusive.

Central Location Not Always Accessible

In attempting to locate a practice in a central location or continue it in such a location, a physician may do so in the belief that "central" and "accessible" are identical. They may not be. The very fact of being "central" may make the practice practically inaccessible. Traveling the last ten blocks in a central area may consume as much time, by whatever mode of transportation, as traveling fifty blocks in a less central area. A physician might speculate on his own mounting irritability traveling from home to such an office location and how it is affecting the habits of his patients. He has to make the round trip almost every day-his patients don't, if they elect otherwise. It's that simple.

The Changing Location

Very likely in the past few years, a physician has moved his residence farther out from the city. Here too his own action should make him pause and speculate. His patients can do and are doing the same thing. Meantime, the areas from which he and his patients have moved are undergoing marked change, usually for the worse, economically. Even if he can

secure new patients to replace those who have moved away, he very likely will find that these new patients are economically less secure, are more likely to have medical work done last, if at all, and represent greater credit risks as well as being less able to pay reasonable fees. This shifting of population in older sections almost invariably causes economic changes that are for the worse. Regrettably, the newcomers to an old area are just less able financially to offset patients lost through moving.

Follow-the-Leader

In this circumstance, a physician may be caught up in a grim, even desperate, game of follow-the-leader. If patients won't come to a physician, a physician may be obliged to go to his patients, actual or potential. Where once a physician might consider a move across the hall a major event in his professional life, he may now need to consider the necessity for moving across town or even to a suburban community. Certainly, hoping for growth in a practice located where all objective facts point to decline is a futile wish. Lamentations won't remedy the dilemma in which such a physician finds himself.



Population Growth Is Outward

Census figures, superficially examined, fail to reveal precisely what is happening. By annexation, a city may create the illusion of growth which doesn't expose the shifting of population to the outer perimeters. A drive around the city will prove much more revealing. Still more enlightening may be a tour of separately incorporated—or unincorporated satellite communities which have sprung up in recent years. These may be as distant as thirty or forty miles from the metropolitan hub. This distance is increasing year by year as turnpikes and freeways cut down travel time for those employed in downtown metropolitan areas. Many of these satellite communities have not only increased sharply in population within the past few years but, more important, per capita income has risen even more dramatically. City paychecks are being spent in suburban areas.

Suburban Movement

The movement of millions of city residents each year to suburban communities is profoundly changing many aspects of the American economy, its business and marketing methods, its social and political characteristics, and at least one particular aspect of medicine, the practice of the family physician.

The exodus to "Suburbia" gained momentum following World War II. A tremendous floating population of veterans was looking for jobs and homes in which they could raise their families. Homes were harder to find than jobs. Most of the veterans had children, were just starting their business or professional careers, had a taste for good living and not much money.

To meet their common problems, Suburbia developed. Self-contained suburban communities sprang up adjacent to New York, Chicago, Philadelphia, San Francisco and virtually every other big city in the country. Shopping centers mushroomed, and even the largest department stores went rural. Some of the suburban com-



Suburban communities such as this sprang up after World War II. This population movement away from the cities has had a profound effect on the practice of the family physician.



munities consisted of ranch-type homes, others garden apartments, others "superblocks" of apartment houses. But they became more than mere housing developments—they became a new way of life.

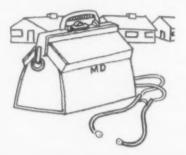
The common problems and interests of the residents led to strong community ties and a vigorous communal spirit. Suburbia has been described as the "expression of younger people's needs and wants," and it represents a considerable proportion of the country's population, and an even greater proportion of its income. Today Suburbia is populated by a new and growing moneyed class whose family unit income is seventy percent higher than the rest of the nation.

Physicians and members of the other health professions have been a part of the movement, resuming their practices much as they would in urban communities.

The physician about to start his practice should think carefully about long-range consequences of choosing the wrong location. From observation of older physicians, he may conclude that greater opportunities are to be found in the cities and in downtown locations. However, what might have been a sound decision for a physician a generation or two ago in starting a practice may need to be qualified and modified by the circumstances outlined. Certainly an outlying suburban community, or even a small town not within the orbit of a population center, may present opportunities not foreseen a few years ago. Moreover, a practice may be built more rapidly in such an environment. There are more newcomers without professional loyalties. Often, in such communities, there are fewer physicians in ratio to patients than in older established areas. Because of rapid growth, this favorable ratio may continue for years.

The Established Physician

For the established physician with a declining practice or one of limited further growth, the choice facing him is an unhappy one. Nevertheless, many physicians recognizing their bleak professional future are reestablishing themselves in new and more favorable locations. Some are selling practices to less perceptive buyers and using the proceeds to help carry them while establishing a new practice. Others are opening new offices while continuing the old, but declining, practice. Time is



divided between the two offices, gradually giving more time to the new practice and less to the old. This, of course, involves additional office overhead and, at the outset, will reduce professional earnings available to a physician. However, it may be a small price to pay for the long-range results considered. Because additional expense is tax deductible, the net outlay may be considerably less.

Certainly, whether reestablishing a practice is a solution to a physician's declining practice or not, he should at least consider whether such a change is a possible solution. And a young physician about to establish a practice should be extremely wary of external influences which can blight his practice almost from the outset. Certainly he is not confronted with the dilemma facing the established physician unless he entraps himself.

Send Your Patients A Christmas Card

HAROLD J. ASHE, Beaumont, California

Nowadays, most physicians with good cause are acutely aware of the importance of maintaining good public relations in their community. Poor public relations can blight a practice as certainly as good public relations can enhance it.

Yet, a good many physicians, perhaps even a majority, continue to ignore one of the most elementary forms available for fostering favorable relationships with their patients as well as others. They fail to blanket their patient list with Christmas cards. They don't, at this most joyous season of the year, remember the opinion-makers of the community whose good will they should value.

Perhaps a physician may feel that this is one professional expense he can bypass without any professional ill effects. Maybe so! Certainly, if he's economy-minded, he can effect far greater savings by refusing to participate in civic affairs, drop membership in luncheon clubs and refrain from other activities calculated to foster good public relations. He doesn't do so because he knows such actions are false economy measures. He should consider Christmas cards in the same light.

In fact, a physician may see only a small fraction of his patients outside of office hours or professional visits. He does not mingle with most of them socially and his community activities may largely go unnoted by most of his patients.

So, for many of his patients, the sending of a Christmas card by a physician is about the only way in which a human, personal note can be struck outside the office and non-professionally. It seems a dubious policy, whatever the excuse, to pass up this once-in-a-year opportunity for a physician to put himself in a humanizing light with those persons who, after all, mean so much to him professionally. These patients are his reason for being a physician.

The cost of sending Christmas cards to patients is negligible when it is related to a physician's gross receipts for the year, as well as its impact on net earnings. A fairly large mailing may entail an outlay of only \$30 or \$40, including the cost of cards and postage. Even a cost of \$50 or more should not be considered prohibitive when it is brought into perspective by the outlays, many of them not income tax deductible, which a physician makes as a matter of course as a means of creating good will and maintaining good public relations.

Choosing Cards

Extreme care should be taken in selecting an appropriate Christmas card for patients. A physician may need to look over more than one line of cards before the right one is found. He may or may not select a religious theme. He may settle for a non-religious card which, nowever, is in good taste. The card chosen should reflect favorably on the sender as well as be calculated to give pleasure to those receiving it. If a religious card is used, it may be wise to choose one of uncertain denominational identification. Perhaps the religious motif may only be implied, as in a traditional scenic card where a church or its spire is an incidental part. Physicians of Jewish faith, for instance, may wish to send out a simple "Seasons Greetings" card.

A physician with a robust sense of humor may be tempted to blanket his list with a humorous Christmas card. Sending such cards may be more amusing to him than to his patients. Most of his patients very likely have religious convictions even if they don't have a church affiliation. These convictions are strengthened and renewed with the approach of the Christmas season, and many patients may resent a card which flippantly assails their convictions and beliefs. If a physician just can't resist the impulse to buy such cards, he should at least restrain himself in mailing them, doing so on a highly selective basis to close friends and associates. Even then, he should not be surprised if he gets a bad reaction.

Imprint

Ordinarily, Christmas cards going to a patient list should carry only the physician's imprint. It is appropriate the card bear both his name and that of his wife if she is associated with him in the office. (A separate card should be selected for use by a physician and his wife and family for mailing to personal friends and acquaintances).

There's a growing practice for the office staff to personally sign Christmas cards. In that event, the physician should also personally sign cards being mailed. In this connection, it may be well to note that office personnel are also good will ambassadors for a physician and have at least a nodding acquaintance with most patients.

Non-Patients

In addition to sending to all patients, it's a good idea to remember professional associates and colleagues. There are a good many persons who don't fall into the category of personal or family friends yet who should be remembered. These may include school nurses, druggists, club and civic leaders, certain city or county officials, building janitors, elevator starters and operators and others.

An office assistant can prepare a patient mailing list well in advance of mailing date. A physician himself may need to add to this list non-patients he wishes to remember with Christmas greetings.

Price

In selecting an appropriate Christmas card, good taste has no price tag. An expensive card does not assure that it is more acceptable, and an inexpensive card should not cause it to be rejected. However, price alone should not be the determining factor in making a selection. Postage considered, any slight saving in card cost will be negligible in the overall cost. First-class postage should be used to assure forwarding and delivery.

P. O. Drawer 307



A GUIDE

GUIDE | for our readers

The conventions of the presentation of advertising material on pharmaceuticals are related to certain ethical and practical considerations. This guide should be of help to all our readers in an understanding of the advertising material contained herein. Unless it is stated to the contrary:

All illustrations of physicians and patients are dramatizations utilizing models and not specific physicians or actual patients. The ethical and other considerations for this are obvious.

Illustrative material such as dummy prescription blanks, hospital charts, calling cards, memos, etc., are presented as dramatizations.

Composite case histories, drawings and/or photomicrographs are often presented to convey typical clinical indications but unless stated to the contrary are constructed as illustrative cases or situations.

Physical limitations of space in journal advertising make the presentation of all relevant data impractical; therefore, it is suggested that for suitable background on dosage indications and contraindications the standard package insert or more extensive background data be consulted.

The acceptance of material for advertising is based upon several criteria; for example, in respect to safety, all new drugs are required to correspond with the accepted Food and Drug application.

It is suggested that any difference of opinion of individual physicians with any advertisements be called to the attention of the editor, with a duplicate copy of the letter to the pharmaceutical house whose advertisement is the subject of the letter.

THE PUBLISHERS



FOR THE SUCCESSFUL PHYSICIAN

Prepared especially for Medical Times by C. Norman Stabler, market analyst of the New York Herald Tribune.

THE MONEY SUPPLY

The supply of money in the United States has increased only moderately in the last year. Among economists and financial analysts there has been a certain amount of apprehension that the increase is short of what the country needs to sustain its economic growth.

The money supply, which consists of demand deposits in banks and currency in circulation outside of banks, came to \$139,500,000,000 at the end of August, up only \$4,000,000,000 in a year. That's a rise of a mere 2.95 per cent, and if we rely on these figures alone a good case can be made by those who point out that our economic growth, given a reasonable chance, far exceeds an annual rate of such a small amount.

Added worries for this group of economists and analysts, are occasioned by tight money rates. They tend to slow the demand for loans. If borrowing were easier, more corporations and individuals would pledge their credit at a bank, to get a loan. Thereupon their deposits at that bank would be increased. Thus the total money supply would be lifted automatically.

There is another factor that should be taken into consideration, however. It may relieve the worries of those who fear our economy is running short of dollars.

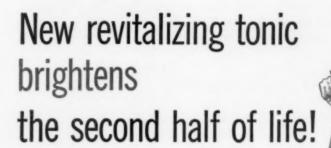
It consists of the great quantity of Treasury bills that have been bought by corporations and are now residing in their respective vaults. These bills represent short-term borrowing by the United States Treasury. They are not money, and consequently they add nothing to the total money supply.

Yet they are close to being money. They can be translated into a deposit in a bank with the greatest of ease. All these bills mature within a year — most of them within three months. Therefore they are about as close to being a demand deposit or currency as anything can be. Any non-financial corporation, or individual seeking money for an expansion, and unwilling or unable to secure a loan,



would have no worries if the possessor of Treasury bills. They are virtually the same as cash on the barrel top.

It is in this area that we see the big expansion of the last year. As of last August 31, bills held outside of commercial banks and the Federal Reserve System increased to \$33,700,000,000, up \$15,000,000,000 from the



Ritonic*

A sense of frustration and inadequacy, faulty nutrition, waning gonadal function-RITONIC meets all these problems of middle age and senile let-down. The unique combination of RITALIN, the safe central stimulant, with a balanced complement of vitamins, calcium, and hormones acts to renew vitality, re-establish hormonal and anabolic benefits, and improve nutritional status,

"We found Ritonic to be a safe, effective geriatric supplement . . . "1 "Patients reported an increase in alertness, vitality and sense of well being."2

PRESCRIBE RITONIC

for your geriatric patients, your middle-aged patients and your postmenopausal patients.

Each Ritonic Capsule contains:

Ritalin® hudrochloride 5 mg. methyltestosterone 1.25 mg. ethinyl estradiol 5 micrograms thiamin (vitamin B₁) 5 mg. riboflavin (vitamin B2) 1 mg. pyridoxin (vitamin B.) 2 mg. vitamin B12 activity 2 micrograms nicotinamide 25 mg. dicalcium phoephate 250 mg.



Dosage: One Ritonic Capsule in mid-morning and one in mid-afternoon.

Supplied: Ritonic CAPSULES; bottles of 100.

References: 1. Natenshon, A. L.: J. Am. Geriatrics Soc. 6:534 (July) 1958.
2. Bachrach, S.: To be published.

RITALIN® hydrochloride (methylphenidate hydrochloride CIBA)

C I B A water as

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previous year's \$19,700,000,000. Most of the \$14,000,000,000 gain represented holdings by non-financial corporations. This is enough to soften the effect of any money squeeze that

might develop should interest rates continue to move higher and banks become more reluctant to make loans. We haven't run out of money, or its equivalent.

CONSUMERS HEAVY BORROWERS

The tightness of money, and higher interest rates, has not dampened the enthusiasm of consumers to own more things. Consumer credit is an active force in the rise in consumption. The Chase Manhattan Bank noted that recently the net increase in consumer credit has been adding about \$6,000,000,000 to the annual rate of consumer purchasing power.

That's above the figure in 1955, when there was widespread concern over the rise in instalment credit. But consumer income is larger now, so the bank estimates that the bigger increase in instalment credit equals 1.9 per cent of income after taxes, or slightly less than the ratio that existed in 1955. Moreover, credit terms have not been extended and liberalized as they were four years ago.

Nevertheless the trends in consumer credit will bear watching, it believes, adding that the net increase in the annual rate of instalment credit in recent months has resulted from:

- Extensions of new credit at a rate of \$49 billion a year, or almost 15 per cent of consumer income;
- Repayments on past instalment credit at a rate of \$43 billion, or almost 13 per cent of income.

Postwar experience would suggest that consumers are reluctant to build instalment debt up to the point where repayments take much more than 13 per cent of annual income.

Auto purchases have generated 47 per cent of outstanding instalment credit recently (versus 68 per cent in 1955). In dollar terms, auto sales this year will be larger than in 1955 and new credit extended may run as much as \$1½ billion above the 1955 total. But repayments on past auto credit contracts will be substantially higher. So the net increase may be only a bit more than half that in 1955.

EDUCATED DOLLARS

A generation or two ago it was the practice of most boards of trustees of educational institutions to invest alma mater's endowment funds in such uninteresting vehicles as first mortgages, United States government bonds, and first mortgage bonds on the so-called "legal list."

In the last few years they have tended away from that conservative policy and have become large investors in common stocks. Many individual institutions point with pride to the fact that their respective portfolios are 60 or even 70 per cent in common stocks. Consequently they have been regarded as aggressive in the swing to equities and away from dollar obligations.

Now comes the shock. According to a sur-



vey made by the mutual fund organization headed by Hugh W. Long & Co., colleges lack an aggressive program of common stock investment. It states that endowment funds of less than \$2,000,000 currently invest about 37 cents of each dollar in common stocks, while funds over \$2,000,000 report common stock investments equal to 45 cents of each endowment dollar.

The firm estimates that all educational endowments in the nation amount to around \$5,000,000,000 which is just about what the



Her fashion may be impeccable, but her brittle, ridged fingernails may suggest incipient iron deficiency anemia... and a therapeutic course of one of the Lederle hematinics. The advantages of these formulations in any type or phase of treatable anemias—marginal, mild, or severe—include (1) less g.i. distress and greater efficiency of the new form of iron, ferrous fumarate; (2) the unique action of AUTRINIC Intrinsic Factor Concentrate, permitting consistently higher B₁₂ uptake.

Three formulas permit dosage flexibility

I am a constitution I			
Each capsule contains:	PRONEMIA	FALVIN	PERIHEMIN
	1 DAILY	2 DAILY	3 DAILY
Vitamin B ₁₂ with AUTRINIC®	2 U.S.P.	1 U.S.P.	2/3 U.S.P.
Intrinsic Factor Concentrate	Oral Units	Oral Unit	Oral Unit
Ferrous Fumarate	350 mg.	271 mg.	168 mg.
Iron (as Fumarate)	115 mg.	90 mg.	55 mg.
Ascorbic Acid (C)	150 mg.	75 mg.	50 mg.
Felic Acid	2 mg.	1 mg.	0.67 mg.

All three contain Autrinic

PRONEMA

FALVIN°

Hematinic Lederle

PERIHEMIN'



LEDERLE LABORATORIES.

a Division of

AMERICAN CYANAMID COMPANY, Pearl River, New York

outstanding stock of Texaco is worth in the stock market.

A total of 263 educational institutions responded to the survey. They had endowment funds of \$2,600,000,000 or more than half of all such endowments.

Here are some other findings of the survey relating to common stocks in the various funds:

- Diversification was limited, especially in the small endowments.
- None of the big stocks received a majority vote.
- Only 25.6 per cent secured professional investment supervision from investment advisory firms or bank trust departments, or through mutual fund investments.
- Only one school (with an endowment of more than \$10,000,000) retains an endowment fund manager on its administrative staff.
 - Of the 180 schools indicating frequency

of investment review, 61 or one-third employed some means of continuous supervision. On average more than half the schools reviewed investments quarterly or even less frequently.

- On average, only private universities with endowment funds of \$10,000,000 or over own as many as 100 different common stock issues.
- The average holding for all educational institutions with endowment funds of less than \$2,000,000 was found to be between 13 and 23 common stocks.

"A total loss in one issue could equal an entire year's income from all other issues held," the survey comments.

The survey found many other things that could be summed up in a few sentences—the schools need more endowment; they need bigger and improved plants; they need bigger staffs.

A SIGN OF CONFIDENCE

How confident are the business men of America? One way to arrive at an answer is to find out how much they are spending for the future. Even more important, how much of their budgets are they earmarking for research and development, in order to keep pace with a fast moving world?

The American Management Association tells us that this year the six hundred United States corporations it studied are spending 12 per cent more for research and development than they did last year. That makes it a record outlay.

A total of 64 per cent of the firms studied increased their budgets for the development of new products and processes, 8 per cent were unchanged, and 28 per cent reduced budgets.

Results of AMA's annual analysis of R & D budgets, were disclosed by Dr. Philip Marvin, the association's R & D division manager, at a management forum for company presidents recently. Last year's survey showed R & D budgets to be only 4 per cent higher than in 1957.

Among the 23 industry groups studied, automobiles were on top with a 32 per cent increase over last year. Three other industries had budget hikes of better than 20 per cent (electrical machinery, 23.8 per cent; instruments, 29.7 per cent; and metalworking machinery, 21.7 per cent). Only one group—miscellaneous machinery and parts—showed a decline; in 1958 six groups had a net budget decrease, including this group.

ALUMINUM SUITS

There has been developed an aluminum sheet so thin it can be worn as cloth, making an insulated suit or a shining evening dress for the ladies.

So we understand from Howard Rhees.

120a

senior research officer of the Shirley Institute of Manchester, England. He claims this new aluminum sheeting can be tailored into a lightweight, inexpensive suit.

Worn with its shiny surface facing the body,

PROVEN EFFECTIVE FOR THE TENSE AND NERVOUS PATIENT



**There is perhaps no other drug introduced in recent years which has had such a broad spectrum of clinical application as has meprobamate.* As a tranquilizer, without an autonomic component in its action, and with a minimum of side effects, meprobamate has met a clinical need in anxiety states and many organic diseases with a tension component.*

Krantz, J. C., Jr.: The restless patient – A psychologic and pharmacologic viewpoint. Current M. Digest 25:68. Feb. 1958.

Miltown

the original meprobamate, discovered and introduced by WALLACE LABORATORIES, New Brunswick, N. J.

in India, it's called 'Delhi belly'



diarrhea by any name

GASTROENTERITIS
BACILLARY DYSENTERY
PARADYSENTERY
SALMONELLOSIS
DIARRHEA OF THE NEWBORN
NONSPECIFIC DIARRHEA
"SUMMER COMPLAINT"

usually responds rapidly to

Cremonycin. NEOMYCIN-SULFAREXIBINE, RADLIN-PRICTIN SUSPENSION

for rapid relief of virtually all diarrheas

fruit-flavored, readily accepted by patients of all ages.

Neomycin — rapidly bactericidal against most intestinal pathogens, but is relatively ineffective against such diarrhea-causing organisms as Shigella.
SULFASUXIDINES— an ideal adjunct to neomycin because it is highly effective against Shigella and certain other neomycin-resistant organisms.
Kaolin and Pectin — coat and soothe the inflamed mucosa, adsorb toxins, help reduce intestinal hypermotility, help provide rapid symptomatic relief.

*For infants, CREMOMYCIN may be administered in the regular bottle feeding since its fine particles easily pass through a standard nursing nipple.

MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILA. 1, PA.

CREMOMYCIN AND SULFASURIDINE (SUCCINYESULFATHIAZOLE) ARE TRADEMARKS OF MERCE & CO., IRC.



ifts and Prizes for Doctors

andrar ed wooden miniatures by old world craftsmen

Imported from Europe, these richly detailed, hand-painted figures make ideal conversation pieces, gifts, bridge prizes, etc. and they add a bright note to any home or office.

Each 7 inches high-\$7.95 postpaid, or \$7.45 each when ordered by the dozen.

Replicas of 12 different figures for your choice—Gynecologist (M1), Pediatrician (M2), Psychiatrist (M3), General Practitioner (M4), Surgeon (M5), Orthopedist (M6), Ophthalmologist (M7), Ear, Nose and Throat Specialist (M8), Dentist (M9), Radiologist (M10), Pharmacist (M11), Veterinarian (M12).

Money promptly refunded if not satisfactory.

PLEASE ORDER BY NUMBER

Immediate Delivery

MEDICAL TIMES OVERSEAS, INC.

Dept. GM, 1447 Northern Boulevard,

Manhasset, N. Y.







it will keep heat in and keep its wearer hot in winter. Turned inside out for summer wear, it will keep heat out and keep the wearer cool.

So far there are only 10 yards of this material in existence. Rhees said he and two assistants had developed it.

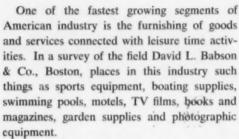
He said the sheeting was only a "quarter of a thousandth of an inch thick."

"I wanted to combine the high reflective property of the metal with the porous property of fabric, so that people wearing the material could sweat quite normally," Rhees said. "My colleagues and I have been working on this for two years, and now we have done it.

"If men do not take to wearing shiny summer suits, the material can be woven into the linings of other suits to give the same effect.

"Women might easily find it attractive," Rhees said, "The idea of an evening dress that keeps you cool no matter how hectic the dance, should appeal to them."

THE BUSINESS OF FUN



"All of the powerful underlying forces at work in today's economy are promoting rapid expansion in these fields," it observes. It lists the more important of these background factors as follows:

- More people: We have been adding three million to the population each year since the war. Until the mid-1950's, however, this gain was centered among children of 10 years or younger and among those over 65. Now the vanguard of the great wave of post-war babies is reaching the age of 13-14.
- More Time Off: The average worker spends less time at his job today than ever before. The standard work week has been shortened three times in this generation. Although it has not been formally reduced since early in the post-war period, it has probably declined by an hour or two in most offices.
- More Retired People: In a recent article titled "The New Rentier Class," Fortune Magazine said: "Not working is the fastest growing of all major 'occupations' in the U. S.



today. The number of non-workers has doubled in the past decade and might well double again by 1970.

- More Spending Power: The most powerful influence of all is the huge rise in recent years in optional spending power (i.e., income after taxes and basic living costs). While total personal income has increased 75 per cent in the past decade, discretionary income has more than doubled. And the distribution of this optional spending power among all groups is far broader than ever before.
- More Credit: The use of credit is being extended into various phases of the leisure time field. Overseas trips and vacations are now being financed on the instalment plan. The practice of buying boats and other big ticket items on "time" is growing rapidly. The issuance of credit cards usable for a wide variety of purposes, particularly traveling and dining out, has become an important new business.
- Better Transportation: Improvements in airline service (reduction in flight time, greater frequency of service) and in our domestic highway system have greatly increased travel, not only for sightseeing but to reach recreational areas for skiing, hunting, fishing and the like.



<u>cough</u> promptly curbed by homarylamine—non-narcotic antitussive with the approximate potency of codeine.

common mouth and throat pathogens, all with relatively low sensitization potentials.

IRRITATION soothed by benzocaine—a topical anesthetic that promotes prolonged relief of inflamed or irritated tissues.

PENTAZETS troches

Homarylamine - Bacitracin - Tyrothricin - Neomycin - Benzocaine

NEW PINEAPPLE FLAVOR Overwhelmingly selected by a taste panel.

Available to your patients on your prescription only.

DOSAGE: Three to five troches daily for three to five days.

SUPPLIED: Vials of 12.



MERCK SHARP & DOHME DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

PENTAZETS is a trademark of Merck & Co., Inc.

• The Suburbs: The trek to suburbia, with its increase in "out-door living," the desire to do what others are doing, the pressure to join in community activities—all are playing a part in this broad picture.

The impact of "leisure-time" spending

reaches into virtually every corner of the economy. Its overall dollar value is difficult to determine accurately, but has been estimated to be in the neighborhood of \$35 billion or about 7 per cent of the total Gross National Product.

WEST GERMAN PROGRESS

West Germany, of all the many areas helped by the United States in its effort to right the economy of a world devastated by the world war, has come back nobly. An evidence of this, ready to the eye of any motorist, is the large number of German made cars on U. S. highways.

Its automobile production jumped from 216,000 cars in 1957 to 1,181,000 cars in 1958 and certainly will be far larger when this year's returns are compiled.

West Germany celebrated its tenth anniversary in September. Figures on this decade show its progress.

Wrist watch production rose from 2,960,-000 to 7,210,000; nylon stockings from 23,-000,000 pairs to 177,000,000; cameras from 1,890,000 to 3,070,000, and television sets from zero to 1,490,000.

For every 100 households, according to the Institute of German Industry, there are now 21 refrigerators against two in 1953, 20 washing machines against 9 in 1953, 52 vacuum cleaners compared with 26, and 30 electric

shavers against 5.

Per capita consumption of beef rose from 15 pounds in 1948-49 to 35.2 pounds in 1957-58, pork from 16 pounds to 63.4 pounds in the same period, milk from 125 pints to 206 pints, and eggs 45 to 201.

Beer remained the most popular beverage, with its consumption doubling from 1950 to 1958, with 150 pints per head being drunk in 1958.

Consumption of cigarettes trebeled to 1,135,-000,000 in 1958, four times more coffee was consumed in 1958, and five times more champagne.

The total labor force climbed from 13,600,000 in 1949 to 19,600,000 in June, 1959, while unemployment dropped from 8.8 per cent of the working population a decade ago to a mere one per cent today.

This unemployment figure is the lowest enjoyed by any nation within the European economic community, despite the fact that west Germany had to care for 12,700,000 refugees and 4,000,000 war victims.



MERRY CHRISTMAS COMING

Reports from retailers are that this will be a Merry Christmas, with sales setting new records during the holiday season. A report by United Business Service, Boston, predicts that sales will be paced by an excellent demand for consumer durable goods. Among non-durables it expects women's apparel to show the best gains, with food sales continuing to make the smallest advances in volume.

Although strikes, especially the steel one, have affected retail trade in some areas, spread-

The information set forth herein was obtained from sources which we believe reliable, but we do not guarantee its accuracy. Neither the information nor any opinion expressed constitutes either a recommendation or a solicitation by the publisher or the authors for the purchase or sale of any securities or commodities.



REFLECTION ON

The clinical aim, following immediate suppression of disease symptoms, is to maintain the patient symptom-free... with minimal side effects.

The logical course is to select the steroid with the best ratio of desired effects to undesired effects:





Upjohn THE UPJOHN COMPANY KALAMAZOO, MICHIGAN

ing wage advances and a continued freespending mood on the part of the public should lift total retail sales in the coming peak shopping season substantially above the previous record 1958 level. Commenting on the earnings outlook for various retail divisions, the service states that larger volumes and well-maintained margins are likely to more than offset the uptrend in operating costs for most firms.



Any one of us can remember the days, not too long ago, when American Telephone & Telegraph was regarded as an investment suitable only for widows and orphans. It boasts far the largest number of stockholders, and always has, yet despite this popularity in the masses it was rare indeed that a broker would recommend its purchase.

The old stock, since split three-for-one, always paid \$9 a share in dividends, even maintaining that rate during the depression, in one year of which its earnings cleared that \$9 by a mere nickel, the price, in those days, of a local telephone call.

Wall Street was caught napping on this big stock. It regarded it as a telephone company only, neglecting to see that it is a leading giant in the growing electronic field. 'Tis said that one reason brokers didn't like to recommend it was that because when they got their customers into it, they never could get them out. That doesn't make for rapid turnover, and commissions.

A. T. & T. has acquired a new look. For one thing it is not likely to face in the next few years the necessity for raising new capital to the extent that marked its financial operations in the first fifty years of this century.

A little over a year ago its shares sold for \$64 (adjusted for the split). They advanced to \$89 in April, only to run into a reversal and then a subsequent recovery. No one can plot its future course but in attempting to do so, a look at the past is helpful.

Few investors realize the steady growth the company has shown, in bad years as well as good. For instance 1958 was a relatively poor year for business, and many a corporation went into the red. It was sort of expected the bulk of them would show poorer figures than they had in 1957. But A. T. & T. continued its progress unbroken.

Take a look at the following tables. They are compiled by Capital Gains Research Bureau, Larchmont, N. Y. The first table shows Telephone's gross and net after taxes, for eleven years. Note that the advance is unbroken. Even in the poor year of 1958 it earned nearly 15 percent more than it did in 1957. The second table on page 130a shows the net profits of the top 35 money-makers in 1958 and compares their figures with what they did in 1948. Note that in percentage improvement A. T. & T. is topped by only one other, International Business Machines. You will see in this list the magic names of American industry.

A. T. & T.'s GROSS AND NET

	GROSS REVENUES	AFTER TAXES
1958	\$6,771,400,000	\$952,305,000
1957	6,313,800,000	829,800,000
1956	5,825,300,000	755,900,000
1955	5,297,000,000	664,200,000
1954	4,784,500,000	549,900,000
1953	4,416,700,000	478,500,000
1952	4,039,700,000	406,700,000
1951	3,639,500,000	364,900,000
1950	3,261,500,000	347,000,000
1949	2,893,300,000	232,900,000
1948	2,624,800,000	228,091,000
Increas	es from	
1948 to	1958 158%	318%



When the distraction is intestinal . . .

Motion study of the man in the second row rightly but sadly speaks of diarrhea. And yet intestinal repose could be his lot with POLYMAGMA. For POLYMAGMA contains Claysorb, which is more than five times as adsorptive as kaolin. It enlists two antibiotics working synergistically. It permits a low-dose regimen

with high effectiveness. And it has a taste and texture that wear well all through treatment.

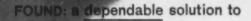
In noninfectious diarrhea, you would, of course, prescribe POLYMAGMA Plain, having the same advanced formula but without antibiotics.

Polymagma



Dihydrostreptomycin Sulfate, Polymyxin B Sulfate, and Pectin with Claysorb* (Activated Attapulgite, Wyeth) in Alumina Gel *Trademark Platatelphia 1, Pa

	NET PROFITS	NET PROPITS	% INCREASE 1958 OVER 1948
AMERICAN TEL. & TEL.	\$952,305,000	\$228,091,000	318%
GENERAL MOTORS	633,628,000	440,450,000	44%
STANDARD OIL (NEW JERSEY)	562,475,000	365,600,000	54%
DU PONT (E.L.) DE NEMOURS	341,249,000	157,450,000	117%
GULF OIL	329,533,000	153,540,000	115%
TEXACO, INC.	310,168,000	166,000,000	87%
U. S. STEEL	301,558,000	129,600,000	133% A
STANDARD OIL OF CALIFORNIA	257,759,000	161,490,000	60%
GENERAL ELECTRIC	242,943,000	136,300,000	78%
SEARS, ROEBUCK	165,788,000	137,210,000	21%
SOCONY MOBIL OIL	156,786,000	132,800,000	18%
BETHLEHEM STEEL	137,742,000	90,350,000	52%
INTERNATIONAL BUSINESS MACH.	126,192,000	28,100,000	349%
UNION CARBIDE	124,937,000	102,340,000	22%
STANDARD OIL (INDIANA)	117,775,000	140,080,000	—16% decr
SHELL OIL	116,563,000	111,400,000	5%
EASTMAN KODAK	98,912,000	51,260,000	93%
FORD MOTOR	95,742,000	96,000,000	
PACIFIC GAS & ELECTRIC	85,310,000	27,300,000	212%
PHILLIPS PETROLEUM	84,237,000	72,630,000	16%
REYNOLDS (R.J.) TOBACCO	78,326,000	34,620,000	126%
UNION PACIFIC R.R.	77,782,000	67,300,000	16%
WESTINGHOUSE ELECTRIC	74,773,000	52,660,000	42%
PROCTER & GAMBLE	73,197,000	65,420,000	12%
INTERNATIONAL PAPER	72,001,000	48,490,000	48%
ATCHISON, TOPEKA & SANTA FE RY.	67,235,000	62,800,000	7%
GOODYEAR TIRE & RUBBER	65,741,000	24,100,000	173%
CONSOLIDATED EDISON (N.Y.)	65,357,000	36,820,000	18%
COMMONWEALTH EDISON (CHICAGO)	63,502,000	24,220,000	162%
REPUBLIC STEEL	61,922,000	46,440,000	33%
KENNECOTT COPPER	60,121,000	93,810,000	—36% decr
AMERICAN TOBACCO	58,846,000	43,910,000	34%
ARMCO STEEL	57,512,000	32,030,000	80%
SOUTHERN PACIFIC CO.	55,767,000	43,800,000	27%
GREAT ATLANTIC & PACIFIC TEA	53,905,000	38,000,000	42%



"the commonest gynecologic office problem"

**VOLVOVACINITIS, CAUSED BY TRICHOMONAS VACINALIS, CANDIDA ALBICAP. Haemophilus vaginalis, or other bacteria, is still the commonest gynecologic office problem . . . cases of chronic or mixed infection are often extremely difficult to cure." Among 75 patients with vulvovaginitis caused by one or more of these pathogens, Taucofuron improved cleared symptoms in 70; virtually all were evere, chronic infections which had persisted despite previous ferapy with other agents. "Permanent cure by both laboratory as al clinical criteria was achieved in 56. . . . "

TRICOFURON

Improved

- a Swiftly relieve itching, burning, malodor and leukorrhea
- Destroys Trichomonas vaginalis, Candida (Monilia) albicans, Haemophilus vaginalis Achieves clinical and cultural cures where others fail Nonirritating and esthetically pleasing

2 steps to lasting relief:

- 1. POWDER for weekly insufflation in your office. MICOFUR®, brand of niluroxime, 0.5% and FUROXONE®, brand of furazolidone, 0.15° in an acidic water-dispersible base.
- 2. SUPPOSITERIES for continued home use each morning and night the first week and each night thereafter—especially during the important menstrual days. MICOFUR 0.375% and FUROXONE 0.25% in a water-miscible base.

Rx new box of 24 suppositories with applicator for more practical and economical therapy.

NITROPURAME—a unique class of antimicrobials

GUIDE FOR INVESTORS

Based on recommendations of the Securities and Exchange Commission in cooperation with the New York Stock Exchange, American Stock Exchange, National Association of Securities Dealers and others.

- 1. Think before buying, guard against all high pressure sales.
- 2. Beware of promises of quick spectacular price rises.
- 3. Be sure you understand the risk of loss as well as prospect of gain.
- Get the facts—do not buy on tips or rumors.
- Give at least as much thought when purchasing securities as you would when acquiring any valuable property.
- 6. Be skeptical of securities offered on the telephone from any firm or salesman you do not know.
- 7. Request the person offering securities over the phone to mail you written information about the corporation, its operations, net profit, management, financial position and future prospects.

CONSIDERING PERCENTAGES

Many things can be done through percentage figures, and quite a number of them can be misleading.

Take the case of a hearing before the Senate-House Economic Committee a couple of month's ago when the threat of Nikita Khrushchev, that the Soviet Union will soon overtake the United States in economic growth, came into the conversation.

Dr. Colin G. Clark, director of research for the Econometric Institute, a witness, told a story of a little girl's rapid recovery from a serious illness, and then he applied percentage figures of her gain in weight and related them to percentage gains in the Russian economy, to demonstrate how faulty can be certain assumptions.

"Much of the concern about attempting to increase the rate of growth of the U.S. Real National Product has arisen because of the supposed rate of growth of the Real Product of Soviet Russia of 6 per cent a year or more," he said.

"This figure, or even figures as high as 8 or 9 per cent a year, are frequently quoted by public officials and by university professors who should know better. At such rates of growth, they go on to say, it will only require a comparatively short period before the real product of the Soviet Union overtakes that of the U.S.A."

Dr. Clark went on to point out that evidence of Soviet growth is not only scanty, but also subject to multituinous distortions of statistics. Most of the figures, he said, are based upon the experience of the immediate post-war years when the Russian economy was being restored after its wartime devastation.

"It is natural that at such a time, the rate of growth should be, for a few years, above normal."

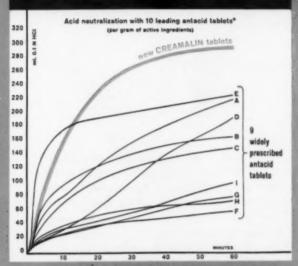
There you have the background, the Soviet making a high percentage recovery after the war mess. That high percentage then is projected to the future—and thus you have a big push that certainly, on paper, would seem to surpass us in no time.

Now for the little child. She was very ill.

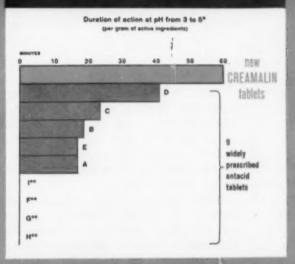
THE MOST SIGNIFICANT IMPROVEMENT IN ANTACID THERAPY SINCE THE INTRODUCTION OF ALUMINUM HYDROXIDE IN 1929

reamalin BANTACID

CREAMALIN NEUTRALIZES MORE ACID FASTER Quicker Relief · Greater Relief



CREAMALIN NEUTRALIZES MORE ACID LONGER More Lasting Relief



el, E. T., Jr., Fisher, M. P. and Tainter, M. L.: A new highly

Each Creamalin Antacid Tablet contains 320 mg. specially processed, highly reactive, short polymer dried aluminum hydroxide gel, (stabilized with hexitol), with 75 mg. magnesium hydroxide.

- 1. Neutralizes acid faster (quicker relief)
- 2. Neutralizes more acid (greater relief)
- 3. Neutralizes acid longer (more lasting relief)
- 4. No constipation . No acid rebound
- 5. More pleasant to take



No chalky taste. New CREAMALIN tablets are not chalky, gritty, rough or dry. They are highly palatable, soft, smooth, easy to chew, mint flavored.

Adult Dosage: Gastric hyperacidity-2 to 4 tablets as necessary. Peptic ulcer or gastritis

2 to 4 tablets every two to four hours.

Tablets may be chewed, swallowed with water or milk, or allowed to dissolve in the mouth.

Supplied: Bottles of 50, 100, 200 and 1000.

inthrop LABORATORIES . NEW YORK 18, NEW YORK

She had lost weight, and became mere skin and bones. The doctor found the cause of illness and treated her properly. The recovery was remarkable. She gained weight at a fast clip.

Thereupon, the doctor plotted a graph of the child's weight growth, and projected it into the future. Had she maintained the same rate, in a year's time she would have weighed more than her father.

A doctor who worked that way, said Dr. Clark, would be regarded as unfitted to practice medicine.

"But," he added, "economists can commit a similar error and get away with it — and economics still is a comparatively unsophisticated branch of knowledge."

International Telephone & Telegraph—It is one of the leading electronic companies. Because it is truly an international concern it may well reap some of the benefits expected from the formation of the European Common Market, in which six nations are concerned. I. T. & T. has long been established in every European country except Luxembourg. It has been in Belgium and Great Britain for seventy-five years.

Many American companies are expanding their foreign operations, and this should work to the advantage of International.

SYNTHETIC COFFEE COMING

There are hints from the scientists that within a few years your morning cup of coffee may not be coffee at all. We gather this from a report by the Stanford California Research Institute. Moreover, it says the price of the substitute probably will be substantially below that of natural coffee.

The Institute's report was prepared for the Senate Foreign Relations Committee. It deals with non-military scientific developments and their possible impact on this country's foreign policy problems.

Commenting that synthetics will probably provide greater competition for rubber, leather and other natural fibers, as well as for coffee, the report said it is "staggering to realize that such displacements could have major repercussions in at least 15 non-Communist nations.

"Foreign Policy planners need to consider well in advance what steps might be taken to lessen the adverse effects of these possibilities," the report said.



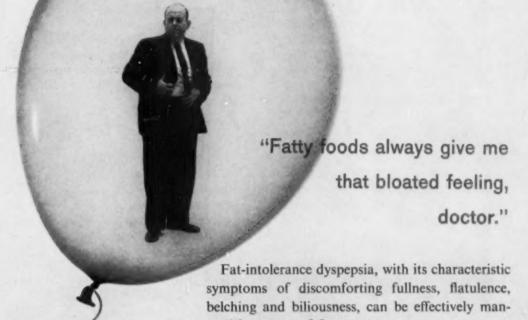
It reported that the increased sales of socalled "instant" coffees in the United States have spurred the laboratory search for the compounds which contribute to the flavor of natural coffee and are lost in the process which creates the "instant" blends. The report notes that "if all or most of the compounds responsible for the characteristic coffee flavor could be identified, soluble coffee could probably be produced at low cost directly, without using coffee beans at all."

The report notes that the development of an analytic technique known as gas chroma tography has enhanced the possibility of identifying component compounds. The technique permits the identification of the parts of an aroma which weight only "millionths of an ounce."

EFFECTS OF THE STRIKE

Even through early September the effects of the steel strike failed to cut into high demand and consumption levels in our economy, The Department of Commerce reports. We must have a pretty hardy economy.

The Department's Office of Business Economics reported that capital investment continued to expand, and most major types of construction continued well ahead of a year ago. The influence of the strike was reflected



aged by means of Oxsorbil.

Oxsorbil, containing the surface-active agent Polysorbate 80 • pre-emulsifies fats in the stomach • stimulates production and flow of bile • decreases viscosity of bile and aids in flushing of the gall-

When gastrointestinal spasm and nervous tension complicate the management of the patient Oxsorbil-PB, containing phenobarbital and belladonna, is recommended.

bladder · maintains normal peristaltic tone.

Supplied: Bottles of 100 capsules.

Literature available upon request

OXSORBIL

Choleretic - FAT EMULSIFIER - Cholagogue



IVES-CAMERON COMPANY

OXSORBIL-PB

The OXSORBIL formula plus phenobarbital and belladonna

For the management of fat-intolerance dyspepsia

chiefly in employment, personal income, manufacturing and mining production and freight transportation.

In general the pattern and the magnitude of changes in the various segments of the economy during the first six weeks of the strike were "similar" to those which prevailed in both 1952 and 1956.

Seasonally-adjusted non-farm employment in August, the survey noted, was over a half million less than in July.

Personal income in August stood at an

adjusted annual rate of \$381,500,000,000—down \$2,500,000,000 from the highs reached in June and July.

The income decline stemmed from reductions in wages and salaries—chiefly in payrolls affected by the steel tie-up—and a continued drop in farm income.

In a separate analysis on consumer goods, the survey noted that an expansion of consumer buying and a sharp rise in consumer goods output has been a feature of the general business recovery.

IMBALANCE IN FOOD

The world is producing more food than ever before; there are more mouths to feed than a year ago but on the average no material change has taken place in the quantity of food eaten per capita; malnutrition and poverty exist in wide areas of the world; surplus stocks of food continue to pile up in the United States and elsewhere; the American housewife pays more for her food than she did a year ago; American farmers get less.

These are some of the evidences of imbalance in the world's food situation taken from the annual report of the United Nations Food & Agricultural Organization, recently issued in Rome.

Other points in its report were that international trade in agricultural commodities has decreased; the United States retained its position as the leading food production nation but the output of Russia has increased more sharply percentagewise; in the Far East and in Latin America, per capita production is still below pre-war levels.

The report showed that world agricultural production remained stationary in 1957-58 but increased 4 per cent in 1958-59. World population increased by 1.6 per cent each year, indicating that the rise in the amount of food available per person was quite small.

It termed the increase in agricultural production as "satisfactory," but said that in some areas the output is still too low compared to population growth.

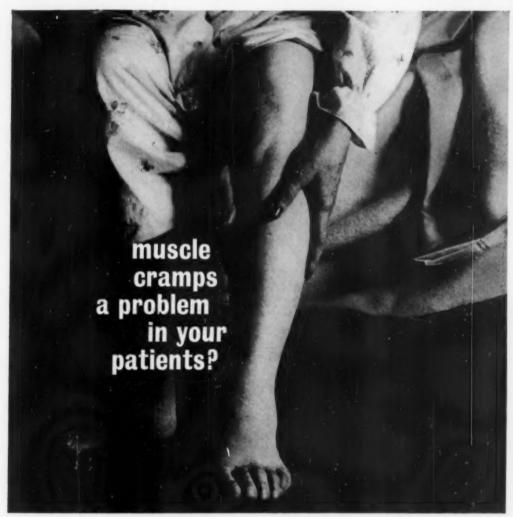
As for the 1959-60 prospects, the report said, "a still higher level of world agricultural production is probable, and surplus stocks are likely to continue to accumulate, although the expansion of both will probably be a little smaller than in the 1958-59 period."

EXPERTS AND AVERAGES

Let's start this discussion with a few observations that are generally accepted: An expert in the stock market is one who has a good batting average in picking 'em low and selling 'em high; the two hundred or more mutual funds and closed-end investment companies hire experts to shape their buying and selling; while each of these experts is seeking so-called "sleepers," which haven't yet been accorded blue-chip ratings, they concentrate on

acknowledged blue chips; the popular Dow Jones industrial index of thirty stocks is made up of acknowledged blue chips and therefore they are the favored choice of the experts.

There is one statement above that is incorrect. It is the one that assumes that these experts (in this case the portfolio managers for mutual funds and closed-end trusts) concentrated on the particular thirty blue chips in the Dow Jones industrial average. A statistical



now you can provide prompt, effective, safe relief with

new QUINAMM

specifically indicated for recumbent leg cramps

Of 200 subjects treated for nocturnal or recumbent leg cramps, "there was complete relief in one hundred and eighty-eight patients (94%)... Most patients were relieved with the first dose and those with severe cramps were relieved as quickly and as completely as those with mild symptoms."*

*Rawls, Wm. B.; Evans, W. L.; Mistretta, C. V., and D'Alessandro, F. M.: Nocturnal or Recumbency Muscle Cramps, Medical Times 87:818 (June) 1959.

Dosage: One tablet at bedtime. Supply: Bottles of 50 tablets, Each tablet supplies 4 grains (250 mg.) of quinine sulfate and 3 grains (200 mg.) of aminophylline. Rx required.

WALKER LABORATORIES, INC., MOUNT VERNON, NEW YORK

survey made by Capital Gains Research Bureau, Larchmont, N. Y., gives the lie to this assumption. It goes on to establish that a more accurate and dependable average for measuring the general market, and the performance of mutual funds, is the Standard & Poor's 500-stock index.

We must give you some statistics before getting into the explanation of its ratiocination in supporting this observation. One is that the 200 mutual funds and closed-end investment companies surveyed have combined assets of \$16,500,000,000; that only 71 have combined assets of \$14,834,000,000; and this represents 90 percent of the industry.

Consequently Capital Gains Research confined its probing to the 71. Specifically it examined their portfolios to see the extent to which they leaned on the thirty stocks in the Dow Jones industrial index—the stocks that are considered to be the cream of the crop. One more statistic: these 30 stocks have a combined total of 1,419,378,390 shares outstanding, with a market value on July 31 of \$111,180,472,612.

Far from concentrating in these thirty issues, the funds under examination were found to have but 15.69 percent of their assets in these thirty stocks; they held but 1.95 percent of the group's total of outstanding shares; their holdings represented but 2.09 percent of the thirty's combined market value.

There are other points in the study which may interest you. From the standpoint of dollars invested by the funds in the thirty issues United States Steel got the number one rating, with 43 funds owning 2,292,400 shares of its stock, valued on July 31 at \$236,690,300.

Texaco was in second place with 48 funds owning 2,444,570 shares valued at \$10,538,-591. Goodyear Tire came third with 33 funds owning 1,035,585 valued at \$135,143,842.

Standard Oil (N.J.) was fourth; Du Pont, fifth; International Paper, sixth; General Motors, seventh; Bethlehem Steel, eighth, General Electric, ninth, and Standard Oil of California, tenth.

Of the group, General Motors has the greatest number of shares outstanding. Its 280,-910,398 shares on July 31 were valued at \$15,906,551,287.

Dollar-wise, however, American Telephone & Telegraph, ranks in top place in the average group with 213,038,860 shares worth \$17,-016,478,942.

Swift & Co., latest addition to the group, is the "baby" with 5,950,709 shares worth \$273,-732.614.

The survey showed that among America's 71 largest funds, only six owned Procter & Gamble; three own Swift; eight own Woolworth; nine own General Foods and American Can, and only 12 own American Tobacco and Chrysler.

At the top, after Texaco; 43 hold Standard Oil (N.J.) and U.S. Steel; and 42 hold General Motors and Du Pont.

The survey points out that of the 30 stocks in the group, only seven—or about 25 percent—are held by more than half of the 71 mutual funds and closed-end investment companies.

The tabulation shows that the Dow Jones group has total shares of more than one quarter of the total for the entire Stock Exchange and the market value of the group is more than one-third of the entire "Big Board" list.

"WE'RE PRETTY TOUGH"

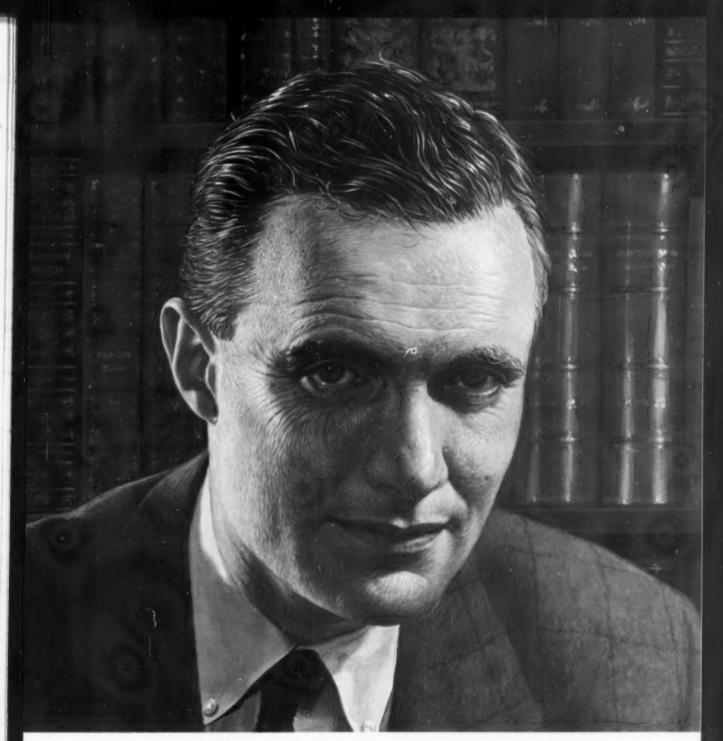
So spoke former President Herbert Hoover, this summer, when the Equitable Life Insurance Society celebrated its one hundredth anniversary. His statement, along with others, was buried in the ground, to be unearthed in twenty-five years.

That's a long time to wait to see if one's



guess is right, and it may be noted that among those who made predictions, along with our former president, none was a stock market prognosticator.

Mr. Hoover spoke of "The Present Fog



over and above the rapid relief and improvement of symptoms Decadron helps restore a "natural" sense of well-being

THE MOST EFFECTIVE OF ALL ANTI-INFLAMMATORY CORTICOSTEROIDS

Decadron.



treats more patients more effectively

the crowning achievement of the first corticosteroid decade

treats more patients more effectively

Comprehensive and thorough clinical trials show that DECADRON on a milligram basis is the most effective of all oral corticosteroids . DECADRON is virtually free of sodium retention, potassium depletion, hypertension, or edema ■ DECADRON is virtually free of diabetogenic effect in the rapeutic doses DECADRON has not caused any new or unusual reactions DECADRON helps restore a "natural" sense of well-being.

INDICATIONS: All allergic and inflammatory disorders amenable to corticosteroid therapy. CONTRAINDICATIONS: Herpes simplex of the eye is an absolute contraindication to corticosteroid therapy. DECADRON should be administered with the same precautions observed with other corticosteroid therapy. DOSAGE AND ADMINISTRATION: Transfer of patients from other corticosteroids to DECADRON may usually be accomplished on the basis of the following

one 0.75 mg. tablet of **Decadron** (dexamethasone) replaces:

One 4 mg.	One 5 mg.	One 20 mg.	One 25 mg.
tablet of	tablet of	tablet of	tablet of
methylprednisolone or triamcinolone	prednisolone or prednisone	hydrocortisone	cortisone

SUPPLIED: As 0.75 mg, scored pentagon-shaped tablets, Also as 0.5 mg, tablets, to provide maximal individualized flexibility of dosage adjustment, since many patients achieve adequate control even on lower dosage.

Detailed literature is available on request. DECADRON is a trademark of Merck & Co., Inc.



Merck Sharp & Dohme Division of Merck & Co., Inc., Philadelphia 1, Pa. of Forces in Motion." He listed the forces as:

"—The tendency of representative government to spend and spend with irresponsibility to its stimulation of inflation.

"—The demands for increasing wages irrespective of their consequence of still more inflation.

"—The hideous increase of crime and the failure of state and municipal law enforcement agencies to bring the increase to an end.

"—The steady march of Communist or Socialist ideas in our intellectual groups.

"-The cold war.

The main assurance that these malign forces may be overcome, said Mr. Hoover, "is that this Republic is pretty tough. It has passed through seven wars, a dozen bad Washington Administrations, and three or four great depressions and yet many of the fundamentals of our founding fathers still live."



Inquiries are received from a number of investors asking for information regarding specific securities. Answers are presented here on the basis of information received from recognized analysts and represent their considered opinion.

Mergenthaler Linotype-Its production costs should be considerably less, after moving from an obsolete plant into two modern structures. In the last few years earnings have reflected the heavy costs of research and development in connection with its Linofilm system, which is an electronically operated photocomposition system. Earnings on this will not show up until next year. The company has been an ailing one but its chairman, Gurden Wattles, who is understood to control some 30 per cent of the outstanding shares, has successfully revitalized other companies in worse shape. The financial position is favorable. This isn't for widows and orphans, but the more speculatively inclined could do worse.

Gimbel Brothers—Consumer demand, which shows no limits, is benefiting all the department stores. Gimbel is one of the more attrac-

tive ones and in the last five years its rate of improvement in per share earnings has been well above average. The management leans to the conservative side in dividend payout.

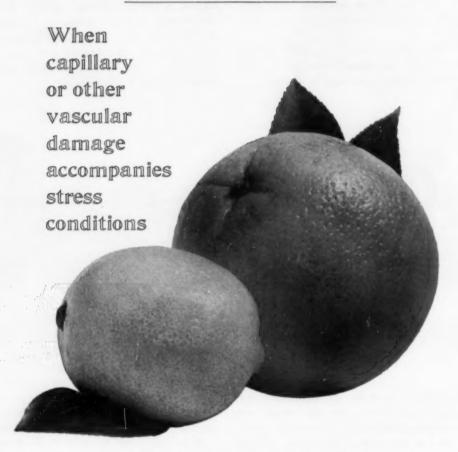
Automatic Canteen of America—The growth of the vending machine business augers well for this company, as it is an aggressive enterprise and is busy developing new machines—in the merchandising field. One of these involves the serving of a complete hot meal. It has entered the music field through the acquisition of AMI, which it can service with its present organization and with little added cost. It spends about \$750,000 a year in engineering and development.



Ampex Corporation—It is generally regarded as one of the quality stocks in the electronics field. Certainly it is one of the most aggressive. It has started

production facilities in England and Japan, has become the exclusive licensee of the British

CITRUS BIOFLAVONOIDS



Hesperidin, Hesperidin Methyl Chalcone, or Lemon Bioflavonoid Complex are prescribed as therapeutic adjuncts for control of vascular and capillary damage and abnormal cellular metabolism associated with many stress conditions.

These stress conditions may result from nutritional deficiencies, environment, drugs, chemicals, toxins, virus or infection.

SUNKIST AND EXCHANGE BRAND Hesperidins and Lemon Bioflavonoid Complex are available to the medical profession in specialty formulations developed by leading pharmaceutical manufacturers.

Sunkist Growers

PRODUCTS SALES DEPARTMENT • PHARMACEUTICAL DIVISION Ontario, California

Control of Habitual Abortion

Disturbed capillary permeability and lowered capillary resistance, as well as the tendency toward edema and fluid retention, are well recognized in pregnancy (1, 2, 3, 4). The bioflavonoids have been shown effective in controlling the susceptibility to edema in pregnancy (5) and their routine prenatal use has been suggested (6).

Ecchymotic areas resulting from bruises and positive capillary fragility tests have frequently been observed in habitual aborters (7). Patients having a history of two or more spontaneous abortions have shown a marked improvement in fetal salvage after the addition of Hesperidin (a citrus bioflavonoid) ascorbic acid and other factors to the therapeutic regimen (8, 9, 12, 14, 15, 16). Other investigators have reported extensive use of the citrus bioflavonoids in the management of pregnancy with excellent results (18, 19, 20).

Observations include a reduction in severity or prevention of erythroblastosis fetalis in Rh-negative patients when *Hesperidin* (7) or other citrus bioflavonoids (23, 24) were administered.

The rationale of Hesperidin and other citrus bioflavonoids—in conjunction with vitamin C, nutritional factors or other therapeutic agents—as adjuncts in the management of pregnancy and its complications, spontaneous abortion and erythroblastosis fetalis, is based on the premise and observation that capillary involvement may be a contributing factor.

NOTE: For bibliography (B-688) write Sunkist Growers, Pharmaceutical Division, 720 East Sunkist Street, Ontario, California. Marconi line of television equipment, has expanded its Videotape recorder operations, and proposes to acquire Orr Industries. Its financial position is adequate. The stock has moved up fast but is still on the recommended list of representative firms.

Douglas Aircraft—It omitted its dividend last July.
This was after it lost \$15,-



000,000 in the six months ended May 31. The effort this quarter is to break even. In fiscal 1960 there is a possibility its military earnings will run to about \$4 a share, which includes missile earnings of about \$2. The company is financially strong and has a good reputation as a low cost producer of defense and commercial products for the space age. For the investor with long range vision it is what Wall Street terms a business man's risk.

R. H. Macy & Co.—It is an attractive income stock. It has expanded considerably in the last few years. The shares provide a generous return, plus the possibility of a moderate long-term growth.

West Virginia Pulp & Paper—It is a leading producer of paper, paperboard and pulp. The prospect is its earnings will tend to improve over what they have been in the last few years, due to its extensive plant expansion and modernization program. Earnings for 1960 are projected by some Wall Street observers at \$3 a share, provided expected selling price increases come along, in which case the dividend would doubtless be increased.

Pittsburgh Metallurgical—It is an important factor in alloys and over the last few years has improved its sales volume relatively better than have its competitors. The company has the reputation of attracting to itself the technical know-how that is so important, and the management has boasted it can make a profit when operations are as low as 35 per cent of capacity.





27 pounds lost in 19 days; ascites and

| RECORD OF TREATMENT (At a leading New York City hospital. Photos used with permission of the patient.)
| Date | 3/3 | 3/4 | 3/5 | 3/6 | 3/7 | 3/8 | 3/9 | 3/10 | 3/11 | 3/12 | 3/13 | 3/14 | 3/15 | 3/16 | 3/17 | 3/18 | 3/19 | 3/20 | 3/21 | 3/22 | 3/23 |
| Weight (pounds) | 178 | 176 | 170 | 169 | 167 | 159 | 158 | 158 | 157 | 153 | 155 | 156 | 154 | 153 | 154 | 153 | - - | 151 | 149 |
| Rx | M* | Esidrix 50 mg. b.i.d.

^{*}Mercurial diuretic



ES Chydrochlorothiazide CIBA)

pre-eminently effective whenever diuresis is desired

Indicated in: congestive heart failure . . . nephrosis and nephritis . . . toxemia of pregnancy . . . premenstrual edema . . . edema of pregnancy . . . steroid-induced edema . . . edema of obesity

Supplied: Esidrix Tablets, 25 mg. (pink, scored) and 50 mg. (yellow, scored); bottles of 100 and 1000.







pedal edema reduced with Esidrix

H. K., 44 years old, was admitted to the hospital on 3/3/59 with complaints of swollen abdomen, swelling of both legs and exertional dyspnea. These symptoms had been intensifying over a three-week period. The patient's history included heavy drinking since the age of 18, and one prior admission to the hospital in 1954 with ascites and pedal edema. Diagnosis, at that time, was Laennec's cirrhosis, and the patient responded well to a regimen of diuretics, salt restriction and multivitamins. There was no recurrence up to that leading to his current admission.

Clinical findings worthy of note: Eyes — conjunctivae and sclerae slightly icteric. Chest—diaphragm elevated. Abdomen — girth enlarged, definite fluid wave. Liver palpated 4 fingerbreadths below the costal margin; no other palpable viscera. Extremities—pedal edema (4+).

The patient is well developed and not in acute distress. Blood pressure, 140/80 mm. Hg; pulse, 112/min.; respiration, 20/min. Impression: Laennec's cirrhosis—decompensated.

Treatment: Mercurial diuretic on 3/3 and 3/4, followed by Esidrix, 50 mg. b.i.d., from 3/5 to 3/23 when patient signed out of hospital. Esidrix induced copious diuresis resulting in almost complete disappearance of edema.

0/2714MU

CURRENT

READING

ON FINANCIAL

SUBJECTS

Wall Street firms are glad to supply those who are interested with views on various industries and companies. You can do us a favor if you mention Medical Times as the source of your information. A partial list of such literature that has come to hand recently follows.

SUBJECT

Electronics for Industry Mid-West Abrasive Co. Ferro Corporation Freeport Sulphur Co. Laboratory for Electronics Bankers Trust Co. Butler Brothers Owens-Illinois Glass Co. **Dura** Corporation Standard Brands, Inc. International Harvester Co. E. I. duPont de Nemours Celanese Corp. of America Colorado Fuel & Iron Co. Food Fair Properties, Inc. John Morrell & Co. United Air Lines, Inc. Johns Manville Corporation Mergenthaler Linotype Co. Packaging Corp. of America Harsco Corporation United States Steel Corp. Elastic Stop Nut Corp. American Tobacco Co. Erie-Lackawanna merger Aztec Oil & Gas Co.

Howe Sound Joy Manufacturing Co. Allis-Chalmers Tuboscope Co. United States Pool Corp. Ceco Steel Products Corp. Sperry Rand Continental Baking Co. Simmons Co. Marine Midland Corporation Cluett, Peabody & Co. U. S. Freight Co. United Fruit Co. West Ohio Gas Co. Colgate-Palmolive Co. McCrory-McMcLellan Stores

FIRM

A. M. Kidder & Co. Estabrook & Co. Grimm & Co. Grimm & Co. Paine, Weber, Jackson & Curtis Paine, Weber, Jackson & Curtis Hardy & Co. Hayden, Stone & Co. Hayden, Stone & Co. Hayden, Stone & Co. Harris, Upham & Co. Harris, Upham & Co. Harris, Upham & Co. Eastman Dillon, Union Securities & Co. Eastman Dillon, Union Securities & Co. Carl M. Loeb, Rhoades & Co. Hecht & Co. Fahnestock & Co. Herzfeld & Stern Blyth & Co., Inc. A. C. Allyn & Co. Dominick & Dominick Herzig, Farber & McKenna Shearson, Hammill & Co. Vilas & Hickey Chace, Whiteside & Winslow

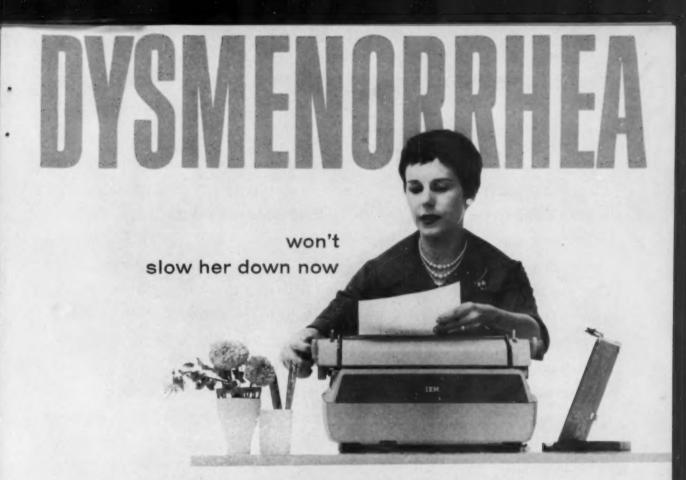
H. Hentz & Co. H. Hentz & Co. Herbert E. Stern & Co. G. A. Saxton & Co., Inc. General Investing Corp. Hornblower & Weeks Bache & Co. Burnham & Co. Thomson & McKinnon Thomson & McKinnon E. F. Hutton & Co. Hill, Darlington & Co. Weingarten & Co. A. G. Becker & Co. Schweickart & Co. Gude, Winmill & Co.

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29 Broadway

One Wall St.



analgesic-relaxant to relieve pain, tension and depression

Synalgos offers prompt, reliable relief from the pain, headache and malaise of dysmenorrhea.

Both the physical and emotional aspects of pain are alleviated by SYNALGOS. It provides not just analgesia but mood improvement and psychic relaxation as well. As a result, tension and sinus headaches are also responsive to SYNALGOS.

1. Youngman, S.A.: Indust. Med. & Surg. 28:69 (Feb.) 1959.



For augmented relief of more severe pain, SYNALGOS-DC—containing dihydrocodeine—is recommended.

SYNALGOS

CAPSULES

Promethazine Hydrochloride, Phenacetin, Acetylsalicylic Acid, and Mephentermine Sulfate

SYNALGOS-DC

CAPSULES

The SYNALGOS formula with Dihydrocodeine

PROMOTES FASTER POST-PARTUM HEALING

Triva's antiseptic¹, detergent², and chelating³ agents destroy and disintegrate harmful micro-organisms. This triple-action antiseptic cleansing of the vaginal vault combats infection...provides a sanitary environment for healing...promotes faster post-partum healing and reduced discharge. At the same time, mucosal tissues are soothed and restored by Triva's saline agent. And Triva is effective in any pH medium, does not depend on normalizing the vaginal pH. Prescribed more than 350,000 times for treatment of all three types of vaginitis, Triva is also a simple and convenient treatment for post-partum patients. Fastidious mothers prefer Triva because it eliminates messy stains and dripping. If you haven't already...try Triva. Administration: Douche, b.i.d., 12 days: for vaginitis. For post-partum use, as indicated. Supplied: Package of 24 individual 3 Gm. packets. Each packet contains: Oxyquinoline Sulfate, 2%: Alkyl Aryl Sulfonate, 35%: Disodium Ethylene Bis-iminodiacetate, 5%: Sodium Sulfate, 53%: Dispersant, 9.5%: BOYLE & COMPANY, Pharmaceuticals-Bell Gardens, California

Triva

MY NOSE ITCHES!

Prescription
For
Travel



Winter Travel Scene

When snow begins to fly up North, thousands of Americans head south. Florida and the islands of the Caribbean are two of the main goals of these travelers. Like Florida, the Caribbean is a boom area where new hotels continue to sprout.

With the onset of chill weather up North the exodus to warmer climes will begin in earnest. This year the travel industry expects that more than half a million Americans will head for tropical and subtropical zones.

Some Americans will combine a Florida holiday with a side trip to Nassau in the Bahamas or to Havana, Cuba, which appears to have quieted down after the civil turmoil of a year ago. In October an estimated 2000 American travel agents held a convention in Havana, a good indication that things have pretty much returned to normal.

Roundtrip air fares from Miami to Havana or Nassau are \$40.50. Effective mid-December, double rooms with private baths in first-class Havana hotels will range in price from \$10 to

doctor,

you wouldn't have such a comb—

(yet some of your patients do)

PHYSICIANS SAY:

- safety—"No toxic side effects were seen."1 "... increased oiliness, loss of hair and staining... were not noted."
- effectiveness—"Of eighty-four patients
 ... seventy-nine [94%] obtained good to excellent results."3

THEIR PATIENTS SAY:

cosmetically acceptable and easy-to-use
 —"This product is remarkably well accepted by the patients as an excellent,
foamy shampoo, free from any objectionable odor . . ."4

Capsebon is available on prescription only.
Supplied in 4-ounce plastic bottles.



a dandruff treatment that isn't a "waste of time"

References: 1. Harvey, J. H., and Ereaux, L. P.: Clinical study of cadmium sulfide shampoo, Canad. M.A.J. 79:917 (Dec. 1) 1958. 2. Stough, D. B.; Lewis, R. A.; Farmer, B. L.; Osment, L. S., and Noojin, R. O.: New beneficial agents in the treatment of acne vulgaris and seborrheic dermatitis, Postgrad. Med. 24:439 (Oct.) 1958. 3. Kirby, W. L.: Preliminary and short report: Cadmium sulfide shampoo in seborrhea capitis, J. Invest. Dermat. 29:159 (Sept.) 1957. 4. Mullins, J. F., and Barnett, J. R.: Cadmium shampoo treatment of seborrheic dermatitis, Texas J. Med. 53:640 (Aug.) 1957.



PITMAN-MOORE COMPANY
DIVISION OF ALLIED LABORATORIES, INC., INDIANAPOLIS 8, IND.

NEW concept

in chronic constipation...

and especially that associated with the irritable bowel syndrome



DECHOTYL

TRABLETS

provides physiologic support until function returns



safe, gentle transition to normal bowel function

DECHOTYL provides gentle stimulation of the bowel and helps restore normal consistency of the intestinal contents to gradually re-establish normal bowel function in your chronically constipated patients.

THE RATIONALE of DECHOTYL is based on an effective combination of therapeutic agents:

DECHOLIN®, dehydrocholic acid, AMES, (200 mg.), the most potent hydrocholeretic available, is a chemically pure bile acid and has been used effectively in the treatment of biliary tract disorders for many years. It produces an increased flow of thin bile which helps to lower surface tension of intestinal fluids, promotes emulsification and absorption of fats and mildly stimulates intestinal peristalsis.

Desoxycholic Acid (50 mg.)—a choleretic, also is a chemically pure bile acid and stimulates an increased flow of bile, lowers surface tension and stimulates peristalsis. By emulsifying fat globules, desoxycholic acid aids the digestive action of the fat-splitting enzyme, lipase. Decholin and desoxycholic acid thus favorably influence the constitution and the movement of the intestinal contents.

Dioctyl Sodium Sulfosuccinate (50 mg.) is a wetting agent which lowers surface tension and aids the penetration of intestinal fluids into the fecal mass, providing a moist stool of normal consistency.

EFFEOTIVE: Bile influences the constitution as well as the movement of the intestinal contents. The ingredients of major importance are DECHOLIN and desoxycholic acid which increase the flow of bile, lower surface tension, promote emulsification and absorption of fats and mildly stimulate intestinal peristalsis. With dioctyl sodium sulfosuccinate, a good therapeutic effect can be obtained without the danger of toxicity or decreasing effectiveness even when used regularly.

SAFE: Clinical evidence indicates that the constituents of DECHOTYL cause no systemic sensitivity, drug accumulation, habituation or interference with nutrition. Orally, in therapeutic amounts, DECHOTYL is without significant toxic effect. The only side effect following oral administration is diarrhea if the dosage is excessive.

Dosago: Average adult dose—Two Trablets* at bedtime. Some individuals initially may require 1 to 2 Trablets three or four times daily. Contraindications: Biliary tract obstruction; acute hepatitis.

Available: Trablets,* coated, yellow, trapezoid-shaped; bottles of 100.

AMES COMPANY, INC Elikhart = Indiona Toronto + Canada



790531

\$17 a day; in deluxe hotels, \$20 to \$35 a day. Meals per person average \$8 per day, and this means eating in the best spots.

The Caribbean

Moderate air fares and a host of plush new hotels are expected to lure many Americans to the Caribbean. A prime goal for many travelers will be Puerto Rico. With fine hotels and a wealth of sun and surf sports, the island's tourist trade has been booming. Tourist fares of \$121.70 roundtrip between the island and New York, Philadelphia, Baltimore and Washington have also stimulated traffic. So has the year-around Miami-San Juan tourist fare of \$91.40, roundtrip.

Wherever they go, Americans will find expanded tourist facilities. Bigger airports as well as more hotels top the list. Airport improvements, either in new, enlarged passenger

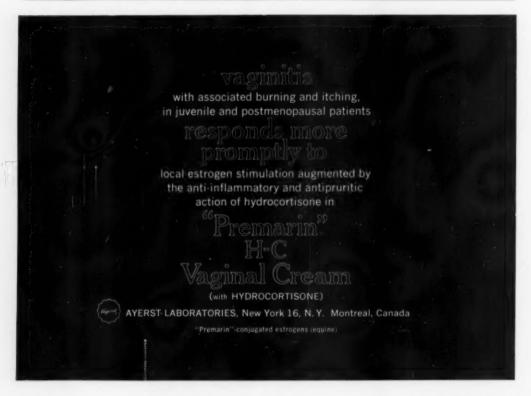
facilities or long runways for jet service—or both—are in progress at St. Croix, U. S. Virgin Islands, the British islands of Antigua, Barbados and Trinidad, and French Martinique.

This fall the Dominican Republic inaugurates its new airport, the \$7 million Punta Caucedo, 15 minutes from Ciudad Trujillo, the capital. Montego Bay, Jamaica, has a new terminal building and Kingston, 120 miles away and the capital of the British island, gets a new one next year. Runways for handling jets are already completed at both cities.

U. S. Islands

In Uncle Sam's Virgin Islands, the wooded isle of St. John, site of the Virgin Islands National Park, is capturing the spotlight. Here, a half hour by boat from St. Thomas, one of the most beautiful beaches in the Caribbean—Trunk Bay—has been acquired by the park. Those who want to spend their holiday on St. John will find cottage facilities and deluxe accommodations at Caneel Bay Plantation.

Travel continued on page 158a



highlights of a nationwide survey

A REPORT

ON THE TREATMENT IN PRIVATE PRACTICE

OF 2,274 PATIENTS

WITH ALLERGIC DISORDERS

RESULTS OF ANERGEX THERAPY BY 202 PHYSICIANS IN PRIVATE PRACTICE

disease classification	no. of e classification patients treated		good	fair	unimproved	
allergic rhinitis:						
perennial	492	196	176	67	53	
spring	209	80	85	31	13	
fall	248	87	114	35	12	
spring & fall	198	73	77	19	29	
		779	6			
extrinsic asthma	492	175	178	68	71	
eczema	260	729 119	71	42	28	
		739		-	20	
food allergy	173	85	42	13	33	
contact dermatitis	157	739 54	62	23	18	
other	45	739 17	15	1	12	
		719	6			
total patients treated	2274	886	820	299	269	
		759	6			

These results were obtained following a single short course of injections

Compiled from questionnaires sent to practicing physicians in communities of various sizes throughout the country, who were asked to indicate the number of patients they had treated, and to classify the results as Excellent, Good, Fair, or Unimproved.

THE NEW CONCEPT FOR THE TREATMENT OF ALLERGIC DISEASES

ANERGEX minimizes or abolishes allergic reactions with a single short course of injections of 1 ml. daily for 6-8 days.

ANERGEX is non-specific; it provides relief regardless of the offending allergen or the symptoms present.

ANERGEX provides prolonged protection. The non-reactive state, or anergy, is usually maintained for months after the initial course of treatment; this can be prolonged by occasional booster doses, if necessary.

ANERGEX*

the new injectable for inhibiting the allergic response

uchat it is: A specially prepared botanical extract obtained from the Toxicodendron quercifolium plant which has a non-specific action and inhibits a wide variety of allergic responses. It is not an antihistamine affording merely temporary relief, nor is it a substance which neutralizes or blocks the action of a single allergen only.

administration: Adult dose, 1 ml. intramuscularly daily for 6-8 days. Anergex appears to be more effective when given during exposure to reasonable amounts of the offending allergen.

advantages: Anergex eliminates skin testing, long drawn-out desensitization procedures, and special diets. No systemic reactions have been reported.

what it's for: Seasonal allergic rhinitis-hay fever, rose fever, pollinosis.

Non-seasonal allergic rhinitis-dust, dander, molds and other inhalants.

Extrinsic asthma-foods, inhalants, dust, dander, pollen.

Asthmatic bronchitis-so common in children.

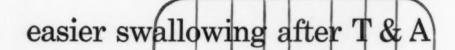
Eczema-especially in infants and children.

Food sensitivity-manifested by indigestion, nausea, vomiting, diarrhea, eczema, asthma, or rhinitis.

available: Multiple-dose vials containing 8 ml. - one average treatment course.

REPRINTS AND LITERATURE AVAILABLE

MULFORD COLLOID LABORATORIES, 38th and Ludlow Streets, Philadelphia 4, Penna.





longed surface anesthesia for sore and painful throats, particularly those occurring after tonsillectomy and adenoidectomy. Its cherry-flavored, watersoluble vehicle spreads evenly and adheres intimately to the membranes. Nonirritating and nonsensitizing. Dose: 1 teaspoonful, swished around in the mouth

Write for additional information regarding other uses which include management of hiccup and reflex vomiting, as well as relief of discomfort associated with laryngoscopy, esophagoscopy, gastroscopy and the passage of esophageal and gastric tubes.



Astra Pharmaceutical Products, Inc., Worcester 6, Mass., U.S.A.

XYLOCAINE® VISCOUS

for better doctor-patient relationship

*U.S. PATENT NO. 2,441,498 MADE IN U.S.A.



in peptic ulcer ...

OFF THE STOMACH
...THE STOMACH
FREE OF PAIN



direct antispasmodic action plus control of anxiety and tension

NOW...

2 Milpath forms
for adjustability
of dosage

MilPATH-400—Yellow, scored tablets of 400 mg. meprobamate and 25 mg. tridihexethyl chloride (formerly supplied as the iodide). Bottle of 50. DOSAGE: 1 tablet t.i.d. at mealtime and 2 at bedtime.

MILPATH-200—Yellow, coated tablets of 200 mg. meprobamate and 25 mg. tridihexethyl chloride. Bottle of 50.

DOSAGE: 1 or 2 tablets t.i.d. at mealtime and 2 at bedtime.

Milpath

•Miltown + anticholinergic

WALLACE LABORATORIES New Brunswick, N. J.



In St. Croix, largest of the islands, only a 40-minute flight from San Juan, the Grapetree Bay Hotel opens on December 1. Accommodating 200 guests, it is the second largest hotel in the Virgin Islands and is being built with deluxe cottages strung along a vast beach front and up into the surrounding green hills.

St. Croix resembles a lady's slipper — with the heel to the west and the toe about 22 miles to the east. It's a calm and peaceful place, an island of coral rock blessed with the never-failing trade winds.

It has a fine year round climate and the picturesque allure of a Danish heritage that once produced a Golden Age for St. Croix—at least for its aristocracy—from 1733 to 1917.

During that period the island was colonized under the banner of the Danish West India and Guinea Company for a three-fold purpose: slave-trading, smuggling, and trade with pirates who roamed in waters beneath the Southern Cross.

Sugar plantations prospered during this early period. There was prosperity and an opulent way of life. But a slave rebellion ended the unbalanced society in 1848.

The plantation names—still used today—had a ring to them: Sweet Bottom, Upper Love, Judith's Fancy (where Christopher Columbus landed on his second New World voyage in 1493), Northside and Estate Carlton, largest and wealthiest of them all.

The Carlton assumes a new role these days—more than 100 years after the height of its glorious past. It's now a luxury hotel, with 60 cozy guest units which stand beneath the tamarind trees that once shaded the main house. Carlton's crescent-shaped beach was combed to make its white sands gleam. Buffets are served daily at a beach casino, complete with cabanas and a swimming pool. A second swimming pool has been added this year beside the estate house, and is enclosed by the adobe walls of the old slave quarters.

What once were cane fields have since been

converted to a nine-hole golf course, the only golfing area in the entire Virgin Islands. A special grass seed was developed at the Georgia Agricultural Experimentation Station for the Estate—it keeps the grass green all year 'round. Several private homes that border the golf course are available for rent.

South of the Virgin Islands lies Antigua, a pastoral British island which can be crossed by car in less than two hours. It has increased its hotel beds from 292 to 400 and a new hotel—the Long Bay, with a unique setting between cove and beach — opens before Christmas.

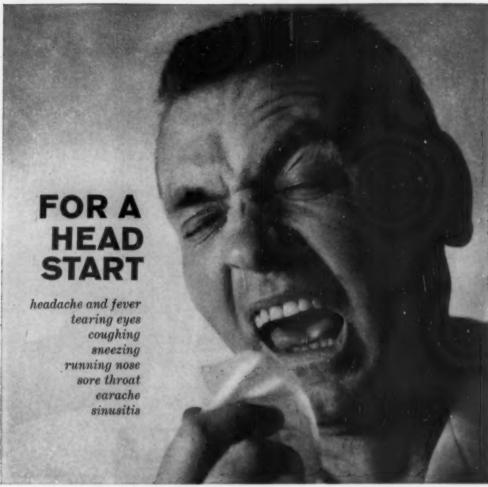
Martinique and Guadeloupe, the French islands, now have more room capacity in their established hotels while Barbados, an old hand at catering to tourists, inaugurates four new hotels. On this tidy island there also will be increased chartered vessels for deep sea fishing, free port shopping and more after-dark entertainment.

Curacao is expanding its sightseeing tours. Operators out of the Curacao Intercontinental, newest and most luxurious hotel on the Dutch island, are offering a wider variety of land and water tours as well as personalized services such as picnics, moonlight cruises and deep sea fishing. Noted as the bargain counter of the Caribbean, Curacao is also stocking up with the world's luxury goods which it sells at bargain prices.

Trinidad and nearby Tobago, locale of Robinson Crusoe's adventures, already have welcomed 160,000 travelers this year. But despite this popularity, costs here—as well as elsewhere in the Caribbean—have not gone up.

Travel continued on page 162a

TO OUR READERS: You are avid travelers—as statistics show—taking trips for pleasure and relaxation as well as to attend professional meetings in this country and abroad. In addition, you often prescribe travel for your patients. Thus, the purpose of this department is to give you concise, practical information about one of your strong interests—travel. As a special service, this section will carry each month a calendar of important forthcoming national and international medical meetings.



IN UPPER RESPIRATORY INFECTIONS

COSA-TETRACYDI

- · Quick, symptomatic relief
- Effective in the control and prevention of secondary complications

Each capsule provides:

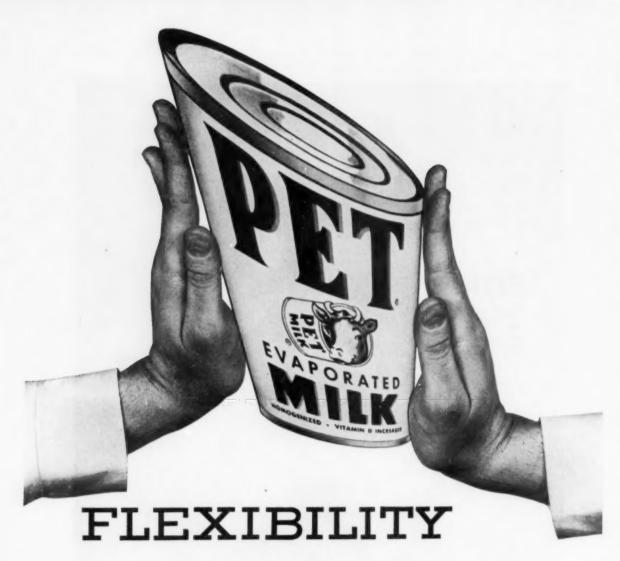
Cosa-Tetracyn						9		0	0		0	125	mg
phenacetin	 *	*		*		*			*			120	mg
caffeine		0					0			0	0	30	mg
salicylamide			0	0	D		0		0		0.	150	mg
huslining HCl												15	-

Additional information on Cosa-Tetracydin is available from the Medical Department of Pfizer Laboratories on request.

Pfizer Science for the world's well-being"

PFIZER LABORATORIES Division, Chas. Pfizer & Co., Inc., Brooklyn 6, N.Y.

*trademark



in the formula base has obvious advantages to the physician, who must decide what each infant needs, and when changes are indicated. An evaporated milk formula is a prescription

formula, permitting the physician to adjust ... the type and amount of carbohydrate

... the degree of dilution to required strength

Evaporated milk is the formula base proved successful by clinical experience . . . for 50 million babies.

FLEXIBILITY PLUS:

Higher protein level recommended when cow's milk is fed to babies

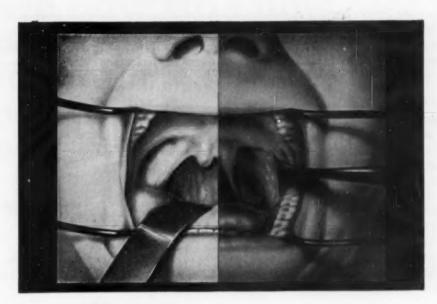
Added vitamin D in required amounts

Maximum nourishment-minimum cost to parents



@1959

PET MILK COMPANY, ST. LOUIS 1, MO.



Now-

"A BACTERIOSTATIC BATH"*

Controls Oropharyngeal Infections and Relieves Discomfort Quickly

Chewing ORABIOTIC releases a soothing flow of saliva, laden with two locally potent and complementary antibiotics—neomycin and gramicidin—plus a topical analgesic, propesin, which is more effective than benzocaine. Valuable as a topical adjunct to systemic treatment of bacterial infections of the mouth and throat.

NON-SENSITIZING AND NON-IRRITATING.

ORABIOTIC®

NEW ANTIBIOTIC-ANALGESIC CHEWING GUM TROCHES

EACH TROCHE CONTAINS: neomycin 3.5 mg., gramicidin 0.25 mg., and propesin 2.0 mg. In PACKAGES OF 10 AND 20. One troche chewed for 10-15 min. q. 4h.

WHITE LABORATORIES, INC., KENILWORTH, N. J.

*Granberry, C., and Bestrous, W. P.: The Effect of an Antibiotic Chewing Tracks
on Post-Tonsilizationy Morbidity, E. E. N. T. Monthly (Mag) 1857.

All-inclusive Caribbean winter vacation costs range from \$25 per person a day and up, depending on the island chosen, and the degree of luxury wanted. This figure covers hotel rooms, meals, sightseeing or self-drive cars.

Luxury Cruises

Cruises to the Caribbean are plentiful, with major shipping lines diverting many luxury vessels to this trade. The Holland-American Line will have its new flagship Rotterdam on this run. In addition, travelers will be able to choose among the Nieuw Amsterdam, Statendam and Maasdam. All four ships are airconditioned and stabilizer-equipped. Offering a continuous series from December through April, 15 Caribbean cruises ranging in length from eight-and-a-half to seventeen days have been scheduled. Rates range from \$225 to \$515.

The first of the Christmas and New Year's Cruises, which are already substantially booked, will be that of the *Nieuw Amsterdam* on December 18. The 16-day trip will take the ship to St. Thomas, Martinique, Barbados, Grenada, La Guira, Curacao, Kingston, Montego Bay and Nassau; minimum rate is \$495.

Grace Line's winter program is highlighted by four special cruises of the new Santa Rosa and Santa Paula. The Paula leaves New York on December 18 for a run to St. Thomas, La Guaira, Curacao, Cristobal, Havana and Nassau. "Both Christmas and New Year's will be celebrated with gay festivities and appropriate religious services," according to a company spokesman.

North German Lloyd's new *Bremen*, the liner which arrived in New York on her maiden voyage last July, will make three cruises to the West Indies and South America. The



Berlin is scheduled for one cruise over the Christmas-New Year season. All four sailings will be from New York.

The Berlin will sail December 23 on a 12-day, four-port cruise, fares starting at \$285. On January 15 the Bremen will start a 15-day, ten-port cruise, with minimum fare set at \$395. Subsequent Bremen sailings: February 1 for 24 days, visiting 18 ports at a minimum fare of \$595; February 27 for 14 days, calling at eight ports and costing a minimum of \$395.

These are just a few of the many cruises scheduled this winter by major carriers. If you want to "get away from it all" for a few weeks and soak up sunshine en route, a cruise to the Caribbean is a good way to do it.



MEDICAL TIMES TRAVEL NOTES

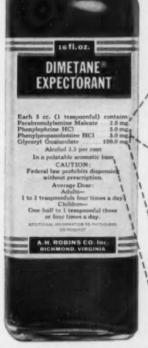
A roundup of travel and vacation news of current interest

- In a move to bring in more American tourists, the United Arab Republic is offering an increased premium on the dollar. The official rate of exchange pegs the Egyptian pound at \$2.87, but for Americans changing their money in Egypt the rate is \$2.08 for the pound.
- On November 1 Braniff Airways' new "U-Write-Ticket" plan went into effect. Under it Braniff's more than 100,000 credit account customers can write their own tickets on blanks contained in a checkbook style folder. The passenger fills in his destination and flight

Travel continued on page 168a

see how this new comprehensive formula

formula controls cough!



the antihistamine most likely to succeed

two highly approved decongestants

the expectorant that works best increases respiratory tract fluid almost 200%

tastes good!

for less frequent, more productive cough DIMETANE EXPECTORANT COURSE DIMETANE EXPECTORANT-DC

with added dihydrocodeinone 1.8 mg./5 cc. when additional cough suppressant action is needed

it started as a "cold"...

to prevent the sequelae of u.r.i. ... and relieve the symptom complex

Sinusitis, otitis, tonsillitis, adenitis, bronchitis or pneumonitis develops as a serious bacterial complication in about one in eight cases of acute upper respiratory infection.(1) To protect and relieve the "cold" patient ... ACHROCIDIN.

Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm. tetracycline). Each TABLET contains: ACHROMYCIN® Tetracycline HC1 (125 mg.); phenacetin (120 mg.); caffeine (30 mg.); salicylamide (150 mg.); chlorothen otrate (25 mg.). Also as SYRUP, caffeine free.

(1) Estimate based on epidemiologic study by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71 122: Jan. 1933.



(LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



keeping appetite in check around the clock

prolonged-action tablets

New long-acting PRELUDIN ENDURETS offer you a new method...a more convenient method...of administering this well-established, reliable appetite-suppressant. The new ENDURETS form virtually eliminates the vexing problem of the forgotten dose because... just one PRELUDIN ENDURET taken in the morning generally curbs the appetite throughout the day.

PRELUDIN ENDURETS afford greater convenience for your patient... added assurance to you that medication is being taken as prescribed.

PRELUDIN® (brand of phenmetrazine hydrochloride)
ENDURETS.***. Each ENDURETS prolonged-action tablet
contains 75 mg, of active principle.
PRELUDIN is also available as scored, square pink
tablets of 25 mg, for 2 to 3 times daily administration.
Under license from C. H. Boehringer Sohn, Ingelheim.



with DIUPRES, fewer patients require addition of other antihypertensive agents

DIUPRES alone

DIUPRES
is adequate
by itself
for many
hypertensives

DIUPRES PROVIDES "BROAD-BASE" ANTIHYPERTENSIVE THERAPY
... is effective by itself in a majority of patients with mild or moderate
hypertension, and even in many with severe hypertension

greatly improved and simplified management hypertension

DIURIL, WITH RESERPINE

the first "wide-range" antihypertensive-effective in mild, moderate, and severe hypertension

- more hypertensives can be better controlled with DIUPRES alone than with any other agent . . . with greater simplicity and convenience, and with decreased side effects
- · can be used as total therapy or primary therapy, adding other drugs if necessary
- o in patients now treated with other drugs, can be used as replacement or adjunctive therapy
- 6 should other drugs need to be added, they can be given in much lower than usual dosage so that their side effects are often strikingly reduced
- organic changes of hypertension may be arrested and reversed... even anginal pain may be eliminated
- patient takes one tablet rather than two... dosage schedule is easy to follow
- economical

DIUPRES-500 500 mg. DIURIL (chlorothiazide),

0.125 mg. reserpine.

One tablet one to three times a day.

DIUPRES-250 250 mg. DIURIL (chlorothiazida),

0.125 mg. reserpine.

One tablet one to four times a day.

MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

number when he obtains his reservations on the telephone. At the airport he presents his ticket for validation and it is automatically charged to his account.

- Entitled "Cuba," a new 100-page annual has been published by the Cuban Tourist Commission. In addition to photos and articles on Havana and the provinces, the publication contains shopping and restaurant guides, a calendar of tourist events, a description of the island's outstanding carnivals. The annual will be distributed through travel agents and air and sea carriers serving Cuba.
- Not only can you shop around the clock in Shannon's duty-free airport but, reports the Irish Tourist Office, more shopping is done in the middle of the night than during the day. It works out this way because so many westbound aircraft stop over in Shannon between 9 P.M. and 2 A.M. American travelers can find bargains in a variety of Irish goods, German cameras, French perfumes, Swiss watches, Italian typewriters—all sold without duty charge.
- British Overseas Airways Corporation has introduced economy seats on its Comet jet transatlantic flights. Prior to this only deluxe and first-class seats were offered. As of November 1, BOAC resumed service to Israel for the first time in four years.
- Air travelers' bazaar: Air travelers to and through Cairo will find a new bazaar, featuring Egyptian-made products, ready to serve their needs at Cairo International Airport. Twenty-two shops in the bazaar are stocked with supplies and souvenirs for last-minute purchases.
- A winter holiday tour to Europe extending over Christmas and New Year's will leave New York on December 23. Westbound voy-

age will be aboard the America, and special holiday festivities will be featured. Eleven days will be spent in Paris and London, with planned evening entertainment. The tour will return to New York by air on January 10. All-inclusive price is \$1250. For further information contact the United States Lines.

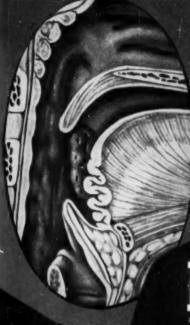
- Tours of unusual places in Mexico, led by an anthropologist and specialist in "Mexicana," are offered this winter by the American Tourist Bureau. Tours will start at Mexico City and proceed by plane, car, boat and, if necessary, by horse. Itinerary includes the Mazatec city of Huautla, native settlements in Yucatan, the isthmus in Oaxaca, mountains near Guatemala, and other areas. All accommodations will be at first-class establishments, and groups will be limited to from four to six persons. Price of \$600 does not cover transportation to and from Mexico. Departures from Mexico City are scheduled for November 14 and December 19.
- A mammoth outdoor escalator system has just been opened to the public on Enoshima Island, according to the Japan Tourist Association. The island is a popular vacation spot about 1½ hours by rail from Tokyo. Costing more than \$500,000, the new escalators whisk tourists up the side of a small but rugged mountain, from sea level to a lovely botanical garden near the summit. The four-stage escalator system, first of its kind in Asia, eliminates the need for climbing 300 stone steps.
- On May 14, 1960, following her return from her annual world cruise, Cunard liner Caronia will sail from New York on a 35-day spring cruise to the Mediterranean. Covering 12,000 miles, the cruise will include stops at such ports as Gibraltar; Tangier, Morocco; Malta; Dubrovnik, Yugoslavia; Villefranche on the French Riviera; Barcelona, Spain; Cherbourg, France; Southampton, England. Rates start at \$900.

We've come a long way since—to staunch the flow of blood—Galen dipped a sponge in asphalt, placed it on the bleeding point, and set it on fire to form a crust and stop hemorrhage. To check hemorrhage today the safe, proved method! No untoward reaction ever reported—even after millions of doses. Acts directly upon the clotting mechanism—effective in less than 30 minutes Controls bleeding of any systemic origin—usually with just one injection. Most economical hemostatic for routine use—costs less per injection, requires fewer injections Koagamin, an aqueous solution of oxalic and malonic acids for parenteral use, is supplied in 10-cc. diaphragm-stoppered vials.

CHATHAM PHARMACEUTICALS, INC • NEWARK 2, NEW JERSEY
Distributed in Canada by Austin Laboratories, Limited, Guelph, Ontario







A NEW APPROACH

in treatment of

"CHRONIC SORE THROAT"

often evidenced as chronic tonsillitis, glandular or hypertrophic pharyngitis

. . . without the penalties of antibiotics or sulfonamides

BISTRIMATE

(bismuth sodium triglycollamate)

Smith

DRAMATIC RESULTS IN CASES RESISTANT TO OTHER THERAPY

14 INDEPENDENT CLINICAL STUDIES PROVED BISTRIMATE EFFECTIVE IN 89.1% OF 395 PATIENTS WITH "CHRONIC SORE THROAT"

BISTRIMATE—a unique bismuth sait, orally produces therapeutically effective systemic bismuth levels. Use of oral BISTRIMATE is safe, convenient and economical...eliminates injections. Emergence of antibiotic-resistant pathogens is prevented...with full freedom from antibiotic sensitization.

DOSAGE: In adults, 1 tablet t.i.d. for 2 or 3 days, then 1 or 2 tablets t.i.d. for a period of 7 to 10 days. In many patients excellent results are often obtained in less than 7 to 10 days.

SUPPLIED: Bottles of 100 and 1000 tablets. Each white scored tablet contains bismuth sodium triglycollamate 410 mg. (equivalent to 75 mg. elemental bismuth).

Literature and samples available on request.

U.S. Patent No. 2,348,984



Smith, Miller & Patch, Inc.

FINE PHARMACEUTICALS

902 BROADWAY, N.Y. 10

BLOCKED?



COUGH?

OPEN

CONGESTION?



Calendar of Meetings

A listing of important national and international medical conferences

DECEMBER

Nassau, Bahamas. Bahamas Surgical Conference, Dec. 28-Jan. 16. Contact: Dr. B. L. Frank, P. O. Box 4037, Fort Lauderdale, Fla.

New York, N. Y. New York Heart Association, Symposium on Salt and Water Metabolism, Dec. 11-12. Contact: Dr. Alfred P. Fishman, N. Y. Heart Association, 10 Columbus Circle, New York, N. Y.

JANUARY, 1960

Hollywood-by-the-Sea, Fla. American Academy of Allergy, Jan. 11-13. *Contact:* Mr. James O. Kelley, 756 N. Milwaukee St., Milwaukee 2, Wis.

Nassau, Bahamas. Bahamas Medical Serendipity Conference, Jan. 17-30. *Contact:* Dr. B. Frank, P. O. Box 4037, Fort Lauderdale, Fla.

FEBRUARY

Miami Beach, Fla. American College of Allergists, Feb. 28-Mar. 4. *Contact:* Dr. John D. Gillaspie, 2049 Broadway, Boulder, Colo.

APRIL

New York, N. Y. International Anatomical Congress, April 11-16. *Contact:* Dr. D. W. Fawcett, Dept. of Anatomy, Cornell University Medical College, 1300 York Ave., New York 21, N. Y.

MAY

Geneva, Switzerland. World Health Assembly, May 3. *Contact:* World Health Organization, Palais des Nations, Geneva.

Rome, Italy. Congress of the International College of Surgeons, May 15-18. Contact: Dr. Max Thorek, 850 W. Irving Park Rd., Chicago, Ill.







(VOL. 87, NO. 11) NOVEMBER 1959



in bronchial asthma PREDNAMIN "tablets "potentiated prednisone"

breaks the
"side-effects barrier"
to full, long-range
corticosteroid benefits

PREDNAMIN brought excellent or good relief to 76% of 50 asthmatic patients . . . all of whom had responded unsatisfactorily to one or more years of specific therapy and to epinephrine, ephedrine and aminophylline. Although treatment was prolonged and continuous, only 2 patients required withdrawal of PREDNAMIN because of side effects.*

The optimally balanced PREDNAMIN combination magnifies the efficacy of small doses of prednisone... but leaves corticosteroid hazards at a low-dose minimum. With PREDNAMIN, problem asthmatics and patients with atopic and contact dermatoses need no longer be deprived of continuing and often dramatic corticosteroid benefits.

Each PREDNAMIN Tablet contains prednisone 2.5 mg., chlorprophenpyridamine maleate 2.0 mg., and ascorbic acid 250.0 mg. Bottles of 30 and 100.

*Swartz, H.: To be published.



DOME CHEMICALS INC.

New York - Los Angeles - Montreal
World Leader in Dermatologicals



MODERN THERAPEUTICS

New therapies and significant clinical investigations abstracted from other journals.

Exophthalmos of Graves' Disease: Present Status of Therapy

"The treatment of the exophthalmos of Graves' disease may be chosen today from a fairly varied armamentarium. The measures employed should be chosen with care, chiefly on the basis of the severity or type of ocular changes, and the rate and degree of progression of the disease.

From the present knowledge of the condition, it would seem good practice to try to prevent a tendency to develop exophthalmos whenever possible. When this is attempted hypothyroidism or hypometabolism should not be allowed to develop in patients having Graves' disease, either before or after therapy for hyperthyroidism. Thus, if exophthalmos is the first evidence of the disease and hypometabolism exists with it, the administration of desiccated thyroid, of thyroxin or of triiodothyronine, in at least a physiologic dose, is indicated.

If exophthalmos is increasing in severity, we believe it is advisable to give thyroid hormone in larger than physiologic doses up to the point that can be tolerated by the patient without undue side-effects.

Local measures of treatment should not be overlooked. Cosmetic glasses may be worn. The cornea must be protected from drying and, in cases where the lids close incompletely, ointments may be used during the night or at other times if necessary. Goggles of the type used by skin divers are useful. In some cases,

tarsorrhaphy may be useful to aid in lid closure or for cosmetic reasons.

The swelling of the periocular tissue is often worse on awakening, and it may be worth while to advise the patient to sleep with the head higher than the body. The prevention of edema by sodium restriction or potassium administration alone has little or no value in this condition.

Roentgen therapy has been recommended by some workers. In general, it has been followed by mild improvement over a period of many months in less than half of the patients so treated. How often improvement can be ascribed to treatment is difficult if not impossible to judge. Since hypopituitarism is not caused by a heavy dose of roentgen irradiatior, we doubt that the changes are cause-and-effect. It must be admitted, however, that the results of other forms of therapy also are slow to occur and undependable.

Estrogens and androgens as pituitary inhibitors have been of little or no value in the treatment of exophthalmos. Estrogens theoretically may be helpful in preventing the hyperpituitarism associated with the menopause, because ovarian deficiency might aggravate a tendency to produce an excess of hormones other than gonadotropins. If estrogens and androgens are administered, care needs to be exercised that their sodium-retaining power is not adding to a tendency toward edema.

Continued on page 176a

when a tranquilizer is warranted..

COMMON ANXIETY ASTHMA. PREMENSTRUAL SITUATIONAL PEPTIC STATES, PRENATAL OTHER ALLERGY TENSION, HYSTERIA, ULCER ANXIETY MENOPAUSE NEUROSIS SEVERITY OF

The extended usefulness of TENTONE is readily apparent

TENTONE® Methoxypromazine Maleate is a new, distinctive phenothiazine...highly active ... for general use in mild and moderate emotional and psychosomatic disorders.

TENTONE elicits a striking, positive calming response^{1,2}...with marked reduction of psychic disorientation, and low risk of blood, liver or other organic toxicity and intolerance.¹⁻⁴

TENTONE parallels the weaker ataractics in low incidence of side effects. Freedom from induced depression is apparently even greater.⁵

TENTONE provides a broadly adaptable dosage range (30 to 500 mg. daily) to permit maximum control in cases of varying severity.

TENTONE is also indicated to relieve emotional stress in surgical, obstetric and other hospitalized patients.



Dosage: Mild to moderate cases—average starting dose, one 10 mg. or one 25 mg. tablet three or four times daily. Moderate to severe—average starting dose, one 50 mg. tablet four times daily. Supplied: 10 mg., 25 mg., and 50 mg. tablets.

1. Bodi, T., and Levy, H.: Clinical report, cited with permission. 2. Wetzler, R. A., and Phillips, R. M.: Clinical report, cited with permission. 3. Prigot, A.: Clinical report, cited with permission. 4. Gosline, E., et al.: Am. J. Psychiat. 115:939 (April) 1959. 5. Turvey, S. E. C.: Clinical report, cited with permission.



LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York





they can plan their own home...

but they need your help in planning their family

Delfen

THE MODERN CHEMICAL SPERMICIDE

Preceptin[®]

THE SPERMICIDAL GEL WITH BUILT-IN BARRIER

PRESCRIBED WITH CONFIDENCE FOR SIMPLE, EFFECTIVE CONTRACEPTION

In patients having severe swelling of the lids and conjunctivae, the use of ACTH and cortisone may be valuable. Whether the mechanism of their action involves direct effects upon the local tissue swelling or pituitary suppression, or both, is not known. Even if pronounced improvement follows the use of these agents, however, experience is not yet sufficient to indicate to what degree or by what measures the improvement can be maintained. It is considered important to limit intake of sodium to 500 mg. per day, and to add several grams of potassium to the daily intake while ACTH and cortisone are being used. If these hormones are administered in large doses, the use of an ulcer regimen also is advisable.

In very severe cases not responding to other measures of treatment, pituitary surgery may be considered. Experience with this type of treatment to date is small but encouraging.

In the event of extremely rapid progression of the disease, when loss of one or both eyes is seriously threatened, orbital decompression may become imperative.

When the condition has become quiescent for a period of many months and ocular muscle palsies are bothersome, eye muscle surgery is useful in some cases."

> E. PERRY McCULLAGH, MARVIN CLAMEN, W. JAMES GARDNER, ROSCOE J. KENNEDY and GEORGE LOCKHART, III Annals of Internal Medicine Vol. 48, No. 3

Imipramine as an Antidepressant Drug

The author notes at some length the multiplicity of factors involved in the evaluation of the effects of a drug, particularly of the so-called tranquillizers. At times, he points out, there is disagreement among the observing experts. It is generally agreed that the tranquillizers have not only signally failed to be of help in dealing with depressed reactions, but they may actually foster the development of such reactions by inhibiting motor activity through which agitation and tension would be

Continued on page 180a

"'Just a little
case of cystitis'
may actually
have already
involved the
kidney parenchyma
before the
bladder
became infected."

"The first evidence of inflammatory disease of kidney or prostate often is vesical irritability."²



WHEN THE SYMPTOM IS CYSTITIS

FURADANTIN

brand of nitrofurantoin

for rapid control of infection throughout the G. U. system

Rapid bactericidal action against a wide range of gram-positive and gram-negative bacteria including organisms such as staphylococci. Proteus and certain strains of Pseudomonas, resistant to other agents actively excreted by the tubule cells in addition to glomerular filtration. In negligible development of bacterial resistance after 7 years of extensive clinical use. In excellent tolerance—nontoxic to kidneys, liver and blood forming organs. In safe for long-term administration.

AVERAGE FURADANTIN ADULT DOSAGE: 100 mg, q.i.d. with meals and with food or milk on retiring. Supplied: Tablets, 50 and 100 mg, Oral Suspension, 25 mg. per 5 cc. tsp.

REFERENCES: 1. Editorial: J.M.A. Georgia 46:433, 1957. 2. Colby, F. H.: Essential Urology, Baltimore, The Williams & Wilkins Co., 1953, p. 330.

NITROFURANS—a unique class of antimicrobials—neither antibiotics nor sulfonamides

BREAKTHROUGH IN THE TREATMENT

OF RINGWORM INFECTIONS

GRIFULWIN

ORALLY EFFECTIVE IN FUNGOUS
INFECTIONS OF SKIN, HAIR, AND NAILS"

DRAMATIC IMPROVEMENT IN TRADITIONALLY REFRACTORY RINGWORM INFECTIONS



Tinea of the toenails of 7 years' duration—after 4 months of treatment with GRIPULVIN. Infecting organism, Trichophyton rubrum.



Same patient after 6 months of treatment with Grifulvin, Infection has cleared; healthy nail growth is almost complete.

McNEIL

MCNEIL LABORATORIES, INC . PHILADELPHIA 32, PA.

- Tinea corporis usually clears in 2 to 4 weeks; itching stops in 3 to 5 days
- Tinea pedis improves in 1 to 2 weeks; complete clearing may require 3 to 6 weeks
- Tinea capitis improves in 2 to 3 weeks; is usually cured in 3 to 5 weeks
- Onychomycosis (tinea of the nails) fingernails clear in 3 to 4 months; new normal growth is seen earlier; toenails require longer treatment
- Oral Grifulvin appears to have a very low level of toxicity

Literature on details of administration and dosage is available upon request.

Supplied: 250 mg. scored, aquamarine tablets, imprinted McNett., bottles of 16 and 100.

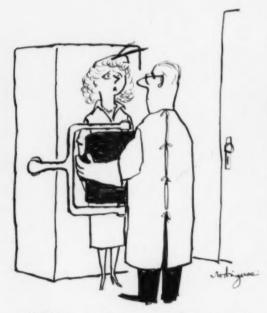
Blank, H., and Roth, E.J.: A.M.A. Arch. Dermat. 79:259 (March) 1959. (2) Williams, D. I.; Marten, R. H., and Sarkany, I.: Lancet 2:1212 (Dec. 6) 1958. (3) Goldfarb. N., and Rosenthal, S. A.: Current M. Digest 26:67 (April) 1959.
 Wrong, N. M.: Canad. M.A.J. 80:656 (April 15) 1959.

Before treatment—tinea of the body of 9 years' duration, intecting organism. Trichophyton rubrum.

After 18 days of treatment with GRIFULVIN. Healing is virtually complete.

Photographs courtesy of Harvey Blank, M.D., Miami, Fla. The patients shown above received Grifulvin (griseofulvin, McNeil)

discharged to some degree. Recently, however, reports have appeared about a new antidepressive drug, imipramine (Tofranil). The author's personal experience has been his observations on the effects of the drug when administered to 26 office patients. He believes that imipramine is the most effective and the most promising drug ever to appear for the treatment of depressive conditions. The starting dose of Tofranil was 25 mg. four times daily; an amount that could usually be reduced after improvement was noted, then tapered down to discontinuance. Occasionally, improvement was almost immediate, but the usual onset of improvement occurred between the tenth and fourteenth days. Side-effects were mild. There was no instance of a sudden response to a particular dose of imipramine; as the days passed, the depressive symptoms were relieved and the patient returned to a normal Recovery or decided improvement occurred in 80 per cent of patients: the others stopped taking the drug because of "hazy feel-



"We'll have to find another place to meet, Gerald. I'm worried about exposure."

ings." While the series of patients observed was small, the clinical results were most gratifying. The drug appears to be completely safe for office prescribing. While its use has been confined to depressive states, imipramine may have a much wider range of usefulness.

M. STRAKER, M.D. Canadian Med. Assn. J., April 1959

Bacterial Sensitivity to Antibiotics

"A series of parallel studies have been carried out to test the validity of the antibiotic disc method of determining bacterial sensitivity and to compare its results with those obtained by the more accurate tube-dilution technic. Commercially prepared discs, which had been impregnated with penicillin, erythromycin, chloramphenicol, streptomycin, chlortetracycline, oxytetracycline, tetracycline, neomycin, bacitracin, and polymyxin, were used in these studies to determine the antibiotic sensitivity or resistance of strains of the hemolytic Staphylococcus aureus, Escherichia, Aerobacter, Proteus, and Pseudomonas. The results obtained were compared with those produced by the discs prepared by two other manufacturers and with those from the serial tube-dilution technic. Marked discrepancies in results were obtained with the discs of all three manufacturers and with all ten of the antibiotic agents, there being no set pattern of disagreement which could be correlated with the source of the discs or with the discs from any one manufacturer.

Because of the importance of the accurate determination of the sensitivity of infecting bacteria as a basis for intelligent antibiotic therapy, better manufacture and standardization of commercial discs are recommended. Until these have been accomplished, the surgeon must look at such sensitivity reports critically to avoid the incorrect choice of an ineffective antibacterial agent."

E. O. HILL, W. A. ALTEMEIER and W. R. CULBERTSON Annals of Surgery (1958) Vol. 148, No. 3, P. 420 Continued on page 188a Successful nutrition despite cow's milk sensitivity

Yesterday's "MULL-SOY Babies"



An extensive literature supports the ability of MULL-Soy Hypoallergenic Soy Food to provide adequate nutrition for normal growth. Since its introduction 25 years ago, more than 1½ million infants have been successfully nourished with MULL-Soy in the early months of life, when actual or potential cow's milk sensitivity existed.

Recently a group of yesterday's "Mull-Soy Babies," ranging from 10 to 25 years of age, had an opportunity to meet each other as guests of The Borden Company, and meet Julius F. Muller, Ph.D., originator of MULL-Soy. As a matter of interest, their case records are given on the following pages. Though five cases cannot be representative of the many "MULL-Soy Babies" of the past, it is interesting to note the common finding that these cases were able to tolerate cow's milk after relatively few months of successful hypoallergenic feeding.

MULL-SOY continued

Then and now... case records of five "MULL-SOY Babies"



J. W. L.-b. 8/31/34

Two weeks after birth, J. was put on soybean milk because of colic, asthma, urticaria, and eczema. At that time he had not received more than two quarts of cow's milk altogether. His severe gastrointestinal, respiratory, and dermatologic symptoms were rapidly and completely relieved. He was taken off Mull-Soy at the age of 7 months (see photograph) in excellent nutritional status. One of the earliest "Mull-Soy Babies," J. W. L. graduated from Cornell a few years ago and is now a healthy young adult of 25.





D. was placed on MULL-Soy at birth (two older sisters had been allergic as children, and their mother developed allergy as an adult). From a birth weight of 7 lb. 10½ oz., D. attained a weight of 19 lb. 6½ oz. at the age of 6 months, when he was gradually transferred to cow's milk. D. is now a healthy, athletic boy of 13, and swims on his class team.





P. C. G. - b. 6/10/47

P., who received MULL-Soy up to the age of 6 months, is now a well-nourished, alert boy of 12. By the time he began his transfer from MULL-Soy to cow's milk, P. weighed 18 lb. 5 oz.—more than double his birth weight. Young P.'s hobbies include stamp collecting, but he mous the lawn with equal zest.





J. C. E. - b. 8/29/49

f. tripled her birth weight of 6 lb. 7 oz. before her transfer from MULL-Soy at the age of 8½ months. Now 10 years old, she likes television, reading, and outdoor recreation.





J. R. - b. 2/1/49

J.'s father was a hay fever victim for many years and her maternal grandmother had allergic asthma. On Mull-Soy, J. gained 8 lb. 6½ oz. over her 6-lb. birth weight by the time she was 5 months old. Now 10 years old, she is in excellent health and manifests no allergic symptoms of any kind.

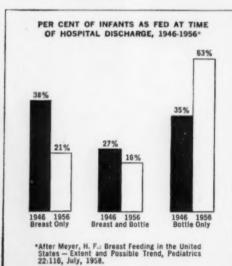


continued

Why the number of infants likely to reject or react to cow's milk is increasing

No absolute statement of the total incidence of cow's milk allergy or intolerance has yet been made. Pratt has recently emphasized how physicians differ in both their definitions of allergy and the clinical criteria which represent it. Collins-Williams writes, "it is impossible for any one observer, regardless of how honest his appraisal is, to give the true incidence of allergy to cow's milk." Bachman and Dees report that less than 1 per cent of a series of "well" infants were allergic to cow's milk, compared to 30 per cent of a series of allergic infants. In her large-scale study, Loveless reports 2.3 per cent of 180,000 infants as milk-allergic, both by test and history. Conversely, Alvarez, with a rather unique practice, reports that "1 in 4 of an unselected group of 500 of my patients was sensitive to cow's milk or could not drink it with comfort."

There are, however, two factors tending to increase the number of cases where cow's milk creates feeding problems. The first factor favoring an increase in the number of milk-allergic infants is an apparent decline of almost 50 per cent in breast feeding. Meyer, reporting on feeding practices with 2½ million newborns from 1,904 hospitals states: "The per cent of infants in the United States leaving hospital maternity nurseries with breast feeding decreased from 38%, in 1946, to 21%, in 1956." Thus, four out of five newborns leave hospital on artificial feeding today, compared to three out of five a decade ago.



The second factor is the increasing number of infants born in the United States each year. These children are naturally born to both "allergic" and "nonallergic" parents and inherit a similar degree of reactivity to environment.



As Alvarez points out, the routine use of cow's milk for feeding newborn infants before they have developed adequate intestinal mechanisms may well sensitize many of them, irrespective of any inherited allergic tendency. Physicians may thus expect both an absolute and a relative increase in the volume of child patients allergic or intolerant of cow's milk, to parallel the rising birth rates and the declining popularity of breast feeding.

Such studies as that of Sternberg and Greenblatt have demonstrated that infants fed MULL-Soy from birth exhibit the same growth and health as those on cow's milk. Protein content is ample and of high biologic value for humans; essential fatty acids are optimal both in quantity and type for infant feeding. As with cow's milk, supplementary vitamins and iron should be added according to each infant's needs.

The long-term nutritional benefits of MULL-Soy have been demonstrated in three generations of laboratory animals by Howard et al. with excellent support of growth, reproduction, and lactation when MULL-Soy is suitably supplemented by vitamins and iron. The same experiment with dried whole milk failed because of high mortality in the second generation and reproductive failure in the third generation due to mineral deficiency.



25-year-old I. W. L. with David W. Anderson, Ph.D., Director of Research for Borden's Pharmaceutical Division, examines a tin of MULL-Soy Liquid, incorporating the latest improvements in the original soybean milk. (J. W. L. had suffered acute allergic symptoms in the first month of life prior to the use of MULL-Soy.)



P. C. G. and J. R., two MULL-Soy "graduates," discuss their current television program favorites. In both cases there was a familial background of allergy. Mull-Soy provided adequate nourishment and protected them against milk-allergy symptoms such as colic, asthma, urticaria, eczema, etc. The children were successfully transferred to cow's milk after approximately half a year on MULL-Soy.

When babies cannot "take" cow's milk, successful nutrition becomes easy with MULL-SOY®

MULL-Soy feeding formulas are made up just like ordinary evaporated cow's milk formulas, diluting and adding carbohydrate in the same way where indicated, as well as synthetic vitamin supplements and iron as prescribed. MULL-Soy comes in 151/2-fluidounce tins of Liquid and 1-lb, tins of Powdered. at all drug outlets in the United States and many countries overseas.

Detailed information and instructions on the use of MULL-Soy for hypoallergenic and nutritionally successful feeding is readily available from Borden's Pharmaceutical Division, New York 17. Readers interested in the scientific and clinical background of cow's milk allergy and intolerance and of its avoidance with MULL-Soy, may also refer to the following cited literature:

PHARMACEUTICAL DIVISION, 350 Madison Ave., N. Y. 17 In Canada: The Borden Co., Ltd., Toronto

makers of MULL-SOY . BREMIL . DRYCO . BETA LACTOSE . KLIM

Alvarez, W. C.: The production of food allergy, Gastro-enterology 30:325, Feb., 1956. Bachman, K. D., and Dees, S. C.: Milk allergy, Pediatrics 20:393, 400, Sept., 1957.

Black, A. P.: A new diagnostic method in allergic disease, Pediatrics 17:716, May, 1956.

Collins-Williams, C.: The incidence of milk aliergy in pediatric practice, J. Pediat. 48:39, Jan., 1956. Glaser, J.: Allergy in Childhood, Charles C Thomas Co., Springfield, Ill., 1956, pp. 3-10, 444-451, 493-508. Howard, H. W., et al.: The effect of long time feeding of a soybean infant food diet to white rats, Ann. Allergy 14:166, Mar. Apr., 1956.

Loveless, M. H.: Milk allergy: A survey of its incidence, J. Allergy 21:489, Nov., 1950. Meyer, H. F.: Breast feeding in the United States, Pediatrics 22:116, July, 1958.

Pratt, E. L.: Food allergy and food intolerance in re-lation to the development of good eating habits, Pediatrics 21:642, Apr., 1958.

Ratner, B.: The altergenically denatured diet in the treatment and prevention of food allergy, Am. J. Gastroenterol. 28:141, Aug., 1957.

Sternberg, S. D., and Greenblatt, i. J.: Serum protein values in infants fed soya-bean milk, Ann. Allergy 9:190, Mar.-Apr., 1951.



The nightmare of hypoglycemia

It can happen, almost without warning, to many diabetics on insulin. One moment, the patient appears normal; the next, he goes into a state of hypoglycemia, perhaps even shock. For some it is a terrifying threat with which to live.

But for many of these patients there is a rational alternative: oral management. On Orinase,* control is smoother, blood sugar levels are more steady - and the terror is dispelled. Some brittle diabetics are "stabilized" on combined Orinase-insulin therapy.

For all your responsive patients on Orinase, there is the assurance of better control and easier patterns of living. *TRADERMANN, NOO. U. S. PAT. CO. - TOLDUT



THE UPJOHN COMPARY UpJohn ORINASE

Effect of Antimicrobial Drugs on Staphylococcal Flora of Hospital Patients

"Staphylococcal carriers who receive treatment with antimicrobial drugs are the chief source of drug-resistant staphylococci of phage group III and of phage type 80/81 presently in our hospitals.

Whereas antimicrobial drugs influence the characteristics of staphylococci carried by patients, and may temporarily suppress the carrier state, they apparently do not affect the tendency of a host to be a carrier.

The carrier state often coexists with clinical staphylococcal infection, and it is suggested that both are strongly influenced by host factors which are unrelated to antimicrobial therapy.

Control of staphylococcal resistance might well be approached by the periodic withholding of certain drugs from use in hospitals to preserve their antistaphylococcal effect. Such a program could be guided by antimicrobial susceptibility tests of staphylococci from selected personnel or patient-carriers."

VERNON KNIGHT, M.D., F.A.C.P., ARTHUR C. WHITE, M.D., and MARGARET P. MARTIN, Ph.D. Annals of Internal Medicine (1958) Vol. 49, No. 3, P. 542

MEDICAL TEASERS

Answer to puzzle on page 45a



Chlormerodrin: Clinical Effectiveness

"Forty-eight clinic patients in chronic congestive heart failure were maintained in a state of cardiac compensation with the oral organomercurial chlormerodrin (neohydrin) over a four-year period. All patients received maintenance digitalis and were advised to stay on a salt-free diet.

An additional five patients treated during the four-year period had gastro-intestinal disturbances manifested by nausea, vomiting, and diarrhea. These patients were withdrawn from study because of their intolerance to the drug.

Of the 48 patients, 39 had previously received parenteral meralluride (mercuhydrin) from six months to ten years prior to initiation of treatment with the oral drug; the other nine had never received parenteral organomercurials prior to treatment with chlormerodrin.

Combined total dosage of oral and parenteral mercury ranged from 6,240 to 78,560 mg. per patient, with no clinical evidence of renal toxicity due to the organomercurials.

Renal function was tested in every patient by means of urinalysis and tests for urea nitrogen, N.P.N., and creatinine. Urea-clearance tests were done in 17 patients. The sole abnormalities detected were occasional albuminuria in seven.

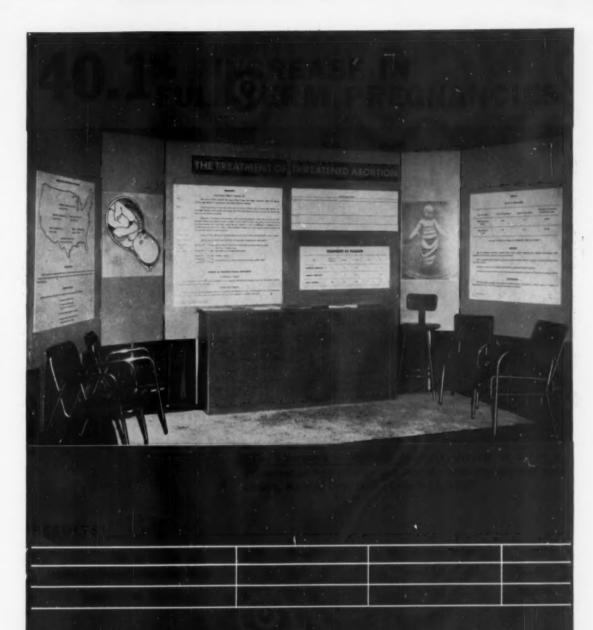
Of the eight deaths in the series, none of which were related to toxicity of the diuretic, three came to necropsy. There was no gross or microscopical evidence of renal damage due to mercury.

Tissue analysis for mercury revealed a small mercurial content in the kidneys, and infinitesimal amounts in heart muscle, liver, spleen, and large bowel.

Chlormerodrin showed no evidence of renal toxicity over a four-year period. Most so-called 'toxic reactions' to organomercurial diuretic therapy can be eliminated by proper control of therapy in sensitive patients."

WILLIAM A. LEFF and HARVEY E. NUSSBAUM Brit. Med. J. (1959), I:889

Continued on page 192a



NUGESTORAL

The Proposition of Ethiotechnological Colors of the State of the State

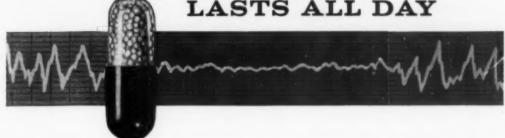
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FOR SUSTAINED TRANQUILIZATION

MILTOWN[®] (*meprobamate*) now available in 400 mg. continuous release capsules as

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JUST ONE CAPSULE LASTS ALL DAY



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HIGHER POTENCY FOR GREATER CONVENIENCE

- relieves both mental and muscular tension without causing depression
- does not affect autonomic function
- does not impair mental efficiency, motor control, or normal behavior

Usual dosage: One capsule at breakfast, one capsule with evening meal

Available: Meprospan-400, each blue capsule contains 400 mg.
Miltown (meprobamate)
Meprospan-200, each yellow capsule contains 200 mg.

Miltown (meprobamate)
Both potencies in bottles of 30.

*WALLACE LABORATORIES, New Brunswick, N. J.

CHC-0423

Retention of Vitamin B₀ in Meat During Cooking

"Several fresh, cooked, and processed meats have been assayed for vitamin Be content, using S. carlsbergensis microbiological yeast assay and rat bioassay methods. Values obtained for the vitamin Be content of fresh meats, using the S. carlsbergensis method, were consistent with earlier work, while the vitamin B6 values observed with the rat bioassay were significantly higher, approximating levels twice as great. These differences are thought to be due to species differences in the ability to utilize the vitamin B6 present in fresh, cooked and processed meat and meat products. The retention of vitamin B6 in cooked meats averaged 54%, a value significantly greater than those reported previously."

> C. H. LUSHBOUGH, JEAN M. WEICHMAN and B. S. SCHWEIGERT The J. of Nutrit. (1959) Vol. 67, No. 3, P. 458

BCG Vaccination in the Control of Tuberculosis

"The value of BCG vaccine in the control of tuberculosis among eight American Indian tribes living in five widely separated areas has been investigated over a period of 20 years.

Tuberculin-negative school and preschool children grouped by age and sex were divided by alternation into two groups. A group of 1551 received an intracutaneous injection of BCG vaccine, while a group of 1457 received an intracutaneous injection of isotonic sodium chloride and served as controls.

In 1956, twenty years after the study was initiated, the areas were revisited and 1547, or 99.7% of the vaccinated and 1448, or 99.4%, of the controls were accounted for. Of the BCG-vaccinated, 104, or 6.7%, had died of all causes during the 20 years of ob-

Continued on page 194a

announcing A

A CHANGE IN NAME

SURFAK FORMERLY BOXICAL

ANEW CHEMICAL SUPERIOR FECAL SOFTENER

SURFAK (formerly Doxical) the new therapeutic chemical, calcium bis-(dioctyl sulfosuccinate) represents a markedly more efficient surfactant softening agent than the older fecal softening chemicals.

■ optimal fecal homogenization ■ greater surfactant effectiveness ■ non-laxative ■ normal physiologic action—no effect on the bowel itself ■ non-habit forming ■ Sodium free

USUAL ADULT DOSE: 240 mg. daily. Children and adults (with minimum needs) 50 to 150 mg. daily. SUPPLIED: Surfak 240 mg. capsules — bottles of 15 and 100. Surfak 50 mg. capsules — bottles of 30 and 100.

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delectable, chewable, chocolate-like vitamin-mineral nuggets

No fights, no battles at vitamin time because children love to chew DELECTAVITES. These delectable, easily chewable chocolate nuggets supply all essential vitamins as well as minerals so necessary during the years of growth. As soon as children can chew, they can go directly from vitamin drops to DELECTAVITES. And, now you can be sure your little patients will follow your instructions about taking their daily vitamins.

Each nugget contains: Vitamin A-5000 Units* / Vitamin D-1000 Units* / Vitamin C-75 mg. / Vitamin E-2 Units* Vitamin B1-2.5 mg. / Vitamin B2-2.5 mg. / Vitamin B6-1 mg. / Vitamin B12 Activity-3 mcg. / Panthenol-5 mg. Nicotinamide-20 mg. / Folic Acid-0.1 mg. / Biotin-30 mcg. / Rutin-12 mg. / Calcium Carbonate-125 mg. / Boron-0.1 mg. / Cobalt-0.1 mg. / Fluorine-0.1 mg. / Iodine-0.2 mg. / Magnesium-3.0 mg. / Manganese-1.0 mg. / Molybdenum -1.0 mg. / Potassium-2.5 mg. *v.s.P. UNITS TINT. UNITS

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WHITE LABORATORIES, INC., KENILWORTH, NEW JERSEY

servation; 0.84% of tuberculosis; 3.0% of nontuberculous disease, and 2.9% of violence. Among the controls, 150, or 10.4%, had died of all causes; 4.7% of tuberculosis; 2.9% of nontuberculous disease, and 2.9% of violence.

The ratio of deaths from all causes of vaccinated to controls was 1:1.5; the ratio of deaths from tuberculosis was 1:5.2%, and the ratio of deaths from nontuberculous disease and violence, 1:1.

Among the vaccinated, tuberculosis was responsible for 12.5% of all deaths, while among the controls, tuberculosis was responsible for 45.3% of all deaths.

In the control group the percent of deaths from tuberculosis among females was twice as great as that among males, but in the vaccinated group the same percent of both sexes died of tuberculosis.

Under the conditions of this study, a 15year follow-up would have been sufficient to establish the value of BCG vaccine, since during the last quinquennium only one death from tuberculosis occurred among the vaccinated and three among the controls. Deaths from violence almost doubled in number in both vaccinated and controls during the last quinquennium."

JOSEPH D. ARONSON, CHARLOTTE F. ARONSON and HELEN C. TAYLOR Archives of Int. Med. (1958), Vol. 101. No. 5. Pp. 892-93

Relaxin-A Critical Evaluation

"1. The exact place of relaxin in the treatment of premature labor is uncertain. Although some success has been reported, it has been of little value in our studies.

2. Relaxin does soften the cervix of pregnant women and thus it appears to be a worthwhile adjunct to the medical induction of labor. In a series of 62 patients treated with relaxin and oxytocin, successful induction was obtained in 71.5 percent. In a control group of 35 patients who received a placebo and oxytocin, the success rate was 22.8 percent. Both groups were selected on the basis of an unfavorable cervix."

MARTIN L. STONE and MARVIN ZUCKERMAN American Journal of Obstetrics and Gynecology (1958) Vol. 76, No. 3, P. 549

Continued on page 200a





breakfast on the run... lunch on the job...
time for

When dietary habits are poor, MYADEC helps prevent vitamin-mineral deficiencies by providing comprehensive nutritional supplementation. Just one capsule daily supplies therapeutic doses of nine important vitamins plus significant quantities of eleven essential minerals and trace elements.

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hydrochloride) 2 mg. Vitamin B₁ mononitrate . . . 10 mg. Nicotinamide (niacinamide) . . 100 mg. Vitamin C (ascorbic acid).... 150 mg.

Vitamin A. (7.5 mg.) 25,000 units Vitamin D. (25 mg.) 1,000 units Vitamin E (d-alpha-tocopherylacetate concentrate) 5 I.U.

MINERALS (as inorganic salts):

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Cobalt 0.	1	mg
Potassium 5.	0	mg.
	2	mg.
Iron 15.	0	mg.
Copper 1.	0	mg.
Zinc 1.	5	mg.
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Bottles of 30, 100, 250, and 1,000, PARKE, DAVIS & COMPANY DETROIT 32, MICHIGAN *



common denominator: a.p.

Worlds apart—plumber,
pediatrician, press agent,
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Each one is receiving Peritrate
20 mg. q.i.d. as "basic therapy,"
providing long-acting coronary
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nitroglycerin dependence.

In one or another, however, underlying apprehensions, sudden stress situations, unpredictable daily schedules call for "basic therapy" plus individualized treatment.

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"basic therapy" Peritrate 20 mg.

for the apprehensive patient Peritrate with Phenobarbital

for congestive failure Peritrate with Aminophylline

for convenient 24-hour protection Peritrate Sustained Action

to relieve the acute attack Peritrate with Nitroglycerin



FOR SKIN INTEGRITY because added methionine in BREMIL FEED BREMIL® inhibits excessive ammonia formation and diaper rash...lactose (the sole carbohydrate) minimizes perianal dermatitis...and high unsaturated fatty acid content reduces likelihood of eczema. Easy for mothers—just add water



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the 125-mg capsule form of Madribon—shares the full therapeutic potential of the parent compound

- the same antibacterial effectiveness—up to 90 per cent in over 15,000 documented cases
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offers definite practical and psychological advantages

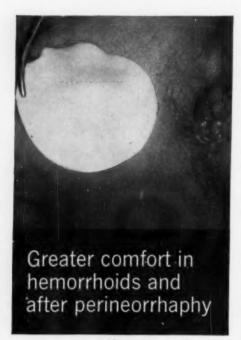
Madriqid is designed especially for use when the physician prefers q.i.d. doses of Madribon in the treatment of bacterial respiratory infections. Madriqid provides practical advantages for the physician since it permits him to adjust total daily dosage as desired. It provides psychological advantages for the patient who may respond better to and have more confidence in a q.i.d. regimen or in capsule form of medication.

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Atrial Flutter as a Manifestation of Digitalis Toxicity

"Atrial flutter is a rare complication of digitalis intoxication. Only 15 fairly definite cases could be found in the literature.

A sixteenth case of atrial flutter due to digitalis toxicity is presented. The patient was an elderly man in severe congestive heart failure who received 7.25 mg. of digoxin during a 9-day period.

Digitalis as a cause of atrial flutter should be suspected when the arrhythmia is associated with ventricular premature beats, despite a rapid ventricular rate, if congestive heart failure is not marked. The same may be said of flutter that develops in the presence of a slow ventricular rate in a heavily digitalized patient with congestive failure. A therapeutic trial of potassium may be helpful in doubtful cases."

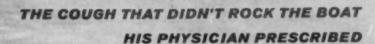
> JAY D. COFFMAN and GERALD H. WHIPPLE Circulation (1959) Vol. XIX, No. 2, P. 192

Digitalis and Atrial Tachycardia with Block

"Atrial arrhythmias due to digitalis are occurring with increasing frequency. The common pattern assumed electrocardiographically is that of atrial tachycardia with block.

In a period of one year, 1957, 32 episodes of paroxysmal atrial tachycardia with block were recorded in 23 patients. Twenty-four of the episodes (or 75 percent) were due to digitalis intoxication. In the order of their importance, overdosage of drug, mercurial-induced diuresis and sensitivity to digitalis were the three factors precipitating the arrhythmia. The patients in whom this arrhythmia develops are generally in advanced cardiac decompensation and have been on rigid sodium restriction. Other evidence of digitalis intoxication is usually present. The electrocardiographic features that identify paroxysmal atrial tachycardia with block and the therapeutic measures that permit its control are discussed."

BERNARD LOWN, FRANK MARCUS, HAROLD D. LEVINE New Eng. J. Med. (1959) Vol. 260, No. 7, P. 309 Continued on page 202a



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BENYLIN EXPECTORANT contains in each fluidounce:

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Parke-l	Da	vi	(8				0			0	8	0 mg.
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Hypotension is caused by or associated with a number of diseases characterized chiefly by a tendency to lethargy, fatigability, daytime drowsiness, and postural dizziness. The same symptoms are frequently produced by ganglionblocking agents. Mephentermine sulfate is a sympathomimetic pressor amine. This compound produces an antiarrhythmic and positive inotropic action and also vasoconstriction. It may be administered orally or parenterally, and has been used clinically for prevention or treatment of hypotension associated with spinal anesthesia, and for correction of depressed blood pressure associated with shock in myocardial infarction and obstetric delivery. A group of 45 outpatients was observed to determine the effectiveness of mephentermine in controlling an excessive hypotensive response in a variety of conditions. The findings indicate to the author that the drug is useful in

this connection, and that the mechanism of action is both central and peripheral. The excursion of the left ventricular pulse and the force of the cardiac contraction were increased. and there was a mild increase in the local peripheral resistance and decrease in the amplitude of the pulsation at the fingertip. A positive inotropic and a peripheral action were induced by intramuscular injection of 25 mg. of the compound. This dose is small in comparison with that used for reversal of acute shock in myocardial infarction. In such cases an initial intramuscular or intravenous injection of 50 mg. is often required to return the blood pressure to normotensive levels. In properly adjusted dosage, mephentermine medication may be continued indefinitely. The drug should not be administered after 4 P.M. because of the possibility of insomnia.

TRAVIS WINSOR, M.D. J.A.M.A. (1959) Vol. 169, No. 15, P. 1742

Continued on page 204a





for thetense and nervous patient

relief comes fast and comfortably

- -does not produce autonomic side reactions
- -does not impair mental efficiency, motor control, or normal behavior.

Usual Dosage: One or two 400 mg. tablets t.i.d.

Supplied: 400 mg. scored tablets, 200 mg. sugarcoated tablets or as MEPROTABS*-400 mg. unmarked, coated tablets.

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LOW BACK PAIN

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TRAUMATIC STRAINS



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 Specific and superior in relief of SOMAtic pain
- Modifies central perception of pain without abolishing natural
- defense reflexes Relaxes abnormal tension of skeletal muscle

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- More effective than muscle relaxants

soma has an unique analgesic action. It apparently modifies central pain perception without abolishing peripheral pain reflexes. Soma is particularly effective in relieving joint pain. Patients say that they feel better and sleep better with Soma than with previously used analgesic, sedative or relaxant drugs.

SOMA also relaxes muscle hypertonia, with its stresses on related joints, ligaments and skeletal structures.

ACTS FAST. Pain-relieving and relaxant effects start in 30 minutes and last 6 hours.

NOTABLY SAFE. Toxicity of SOMA is extremely low. No effects on liver, endocrine system, blood pressure, blood picture or urine have been reported. Some patients may become sleepy, particularly on high dosage.

EASY TO USE. Usual adult dose is one 350 mg. tablet 3 times daily and at bedtime.

SUPPLIED: Bottles of 50 white coated 350 mg. tablets.

Literature and samples on request.



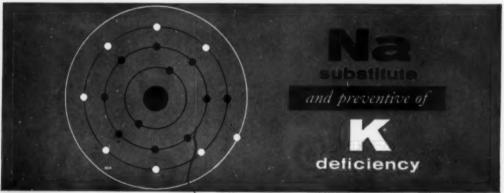
WALLACE LABORATORIES, NEW BRUNSWICK, N. J.

Flumethiazide Evaluated

Since diuretic drugs have been found to possess antihypertensive properties, a number of agents have been studied with this thought in mind. One of the newer diuretics is flumethiazide (Ademol). Its action in connection with edematous states of varied etiology has been reported in the literature. Its potency as a diuretic drug is not significantly different from other agents. Tolerance to the compound does not develop, and there is nothing to indicate that the drug produces any greater disturbance of the biochemical equilibrium than is produced by comparably potent natriuretic agents. To evaluate flumethiazide as an antihypertensive agent, it was substituted for one of the drugs in a combination of antihypertensive agents agents that had been administered to 25 patients in dosages sufficient to control hypertension. The patients were examined at the end of

three, six, and twelve weeks. No significant change in blood pressure or in body weight was observed, an indication that flumethiazide was effective in maintaining the control of the hypertensive state that had been achieved by the previous therapy. Another group of 25 patients who were receiving rauwolfia alone for the control of mild hypertension, but who did not have edema, were given flumethiazide additionally in a dose of 0.5 gm. twice daily, and were observed at similar intervals. It was found that there was a definite decline in blood pressure and body weight that became significant at the end of six weeks and persisted throughout the twelve-week period of observation. The additional use of the flumethiazide had unquestionably augmented the antihypertensive properties of the rauwolfia. In summary, flumethiazide appears to be an additional

Continued on page 208a



doubly valuable for patients on salt-restricted diets

Besides encouraging the patient's adherence to diet, DIASAL offers pleasant-tasting prophylaxis against the potassium loss incurred by the use of the more recent oral diuretics. The potassium supplementation, concurrently supplied by DIASAL, helps avoid digitalis toxicity due to urinary loss of this ion. Constituents: Potassium chloride, glutamic acid and inert excipients. Available in 2-ounce shakers and 8-ounce bottles.

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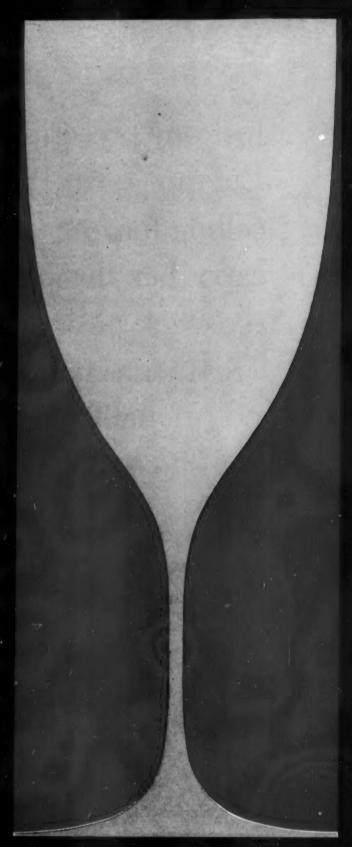


calling for one tablet a day will carry her through term to the six-week postpartum checkup. This means you are assured of a nutritionally perfect pregnancy, and she realizes major savings.



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measured calories for <u>adequate</u> nutrition with high satiety on 900 calories a day... without appetite depressants

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no appetite depressants needed

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adequate nutrition on 900 calories

Metrecal is a scientifically blended powder consisting of protein, carbohydrate and fat plus vitamins and minerals. One half-pound, the daily feeding, supplies 900 calories. It mixes readily with water to make a pleasant-tasting beverage.

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A gratifying feature is its high satiety value. Overweight patients placed on Metrecal alone comment on the absence of hunger, an improved sense of well-being and stepped-up motivation to lose weight.¹

Patients welcome the convenience of Metrecal—no complex menus to plan, no calories to count, no foods to measure and weigh. It's so easy to use and easy to prepare. All they do is mix one-half pound of Metrecal with a quart of water to a creamy, palatable smoothness with a fork, eggbeater or blender—add flavoring if desired, refrigerate and serve. This makes the complete 900-calorie daily feeding—36 fluid ounces of nutritious, sustaining Metrecal beverage—which provides a large glass for each meal and at bedtime.

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In a study¹ of 100 patients on the 900-calorie daily Metrecal program for periods up to twelve days, an average weight loss of 6½ pounds per patient was shown. In another report,² overweight patients on this program for periods from two to thirty weeks, showed losses of 3 to 5 pounds per week initially. Thereafter, weight reduction continued at an average weekly rate of 2 to 2½ pounds per patient. Taste acceptance, gastrointestinal toleration and satiating properties were impressive.

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When more than 900 calories are permitted, the daily allotment (½ pound) of Metrecal may be increased—or it may be used with low-calorie foods.

special Metrecal weight-control guide

This instructive booklet, for distribution to your patients, will simplify giving instructions and help encourage patient cooperation. Ask your Mead Johnson representative for your supply.

(1) Antos, R. J., to be published. (2) Tullis, I. F., to be published.



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nonmercurial orally effective diuretic agent. Comparison of its effects in the reduction of blood pressure with other diuretic agents indicates that this effect is proportional to its potency as a diuretic agent.

> A. C. MONTERO, M.D. New Eng. J. of Med., April 1959

Atherosclerosis and Heart Disease: Observations in Jamaica

"Using a standard technique, the incidence of atherosclerosis of the aorta at 500 necropsies in Jamaica has been compared with the incidence in published series in which the same method was employed.

The predominantly Negro population in Jamaica develops a degree of aortic atherosclerosis similar to that of a mixed population in New Orleans, U.S.A.

The incidence of myocardial infarction, however, is much lower in the Jamaican series. Other thrombotic diseases are also rarer in Jamaica.

Since there is no constant relation between the incidence of atherosclerosis and the incidence of coronary thrombosis, they are very unlikely to have the same cause. Atherosclerosis may or may not be promoted by a dietetic factor; but, if it is, the same factor can hardly be responsible for the thrombosis which results in ischemic heart disease.

In etiological studies the two conditions need to be clearly distinguished. Since advanced atherosclerosis is compatible with health and long life, investigation of the cause of thrombosis is of more immediate concern."

> W. B. ROBERTSON The Lancet (1959) I:466 Continued on page 212a

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When a gentle, effective laxative is needed to help establish normal regularity, Ex-Lax may be recommended with confidence. Phenolphthalein, the active ingredient in Ex-Lax, exerts its greatest effect upon the colon' ...acts gently, overnight...in the morning produces a stool very much like normal.* It may be safely given as directed to the young and old.*



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1. Goodman, L. & Gilman, A.: The Pharmacological Basis of Therapeutics, 2nd ed., Macmillan Co., 1956, p. 1054. 2. Beckman, H.: Drugs, Their Nature, Action and Use, W. H. Saunders Co., 1958, p. 440. 3. Blatt et al: J. of Ped., Vol. 22, No. 6, 1943, p. 725. Abramowitz, E. W.: Am. J. Dig. Dis., Vol. 17, No. 3, 1950, p. 81-82.

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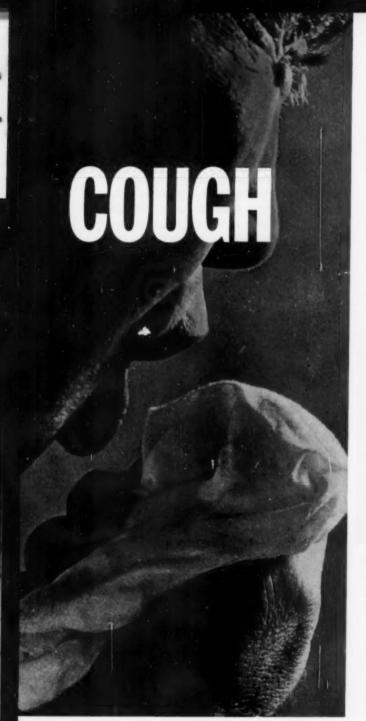
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"It has been assumed that higher blood levels and acid-resistance justify the conclusion that penicillin V is better than penicillin G for oral therapy. This rationalization is fallacious because: 1) oral penicillin G is effective therapy for penicillin-susceptible infections to the extent that penicillin V can do no better, 2) there is no controlled clinical evidence that penicillin V has any advantages over penicillin G, and, 3) penicillin V is no more effective and may be less effective than penicillin G in the treatment of infections of mice. Even for those who attribute clinical significance to the elevated blood levels of penicillin V, it should be noted that not all investigators are agreed that penicillin blood levels are significantly higher for V than for G, and the higher blood levels of penicillin V may be nullified by the facts that some strains of bacteria require more penicillin V than penicillin G for inhibition and that penicillin V is bound by plasma protein and inactivated by animal tissue to a greater extent than is penicillin G."

WILLIAM WEISS, JAY NADEL, GEORGE M. EISENBERG, HARRISON, F. FLIPPIN The Am. J. of the Med. Sciences (1959) Vol. 237, No. 2, P. 209

Cardiovascular Changes in the Post-Gastrectomy Syndrome

"1. The post-gastrectomy syndrome has been studied in a group of 27 patients before and after gastrectomy and gastro-enterostomy by noting pulse, blood-pressure, plasma-volume, blood-sugar, serum-potassium, and electrocardiogram following a glucose meal.

No abnormal cardiovascular response was noted in the pre-operative studies.

Reduction in plasma-volume occurred in all patients after gastrectomy and gastro-enterostomy, but no correlation was found between the size of shift and the presence or absence of symptoms.

- 4. Blood-sugar estimations following the glucose meal revealed no difference between 'dumpers' and 'non-dumpers.'
- The serum-potassium was not low during the period of symptoms.
- 6. E. C. G. changes occurred in most patients during the symptoms. The alterations noted were more in keeping with sympathetic stimulation than with potassium depletion."

H. L. DUTHIE, W. T. IRVINE and J. W. KERR *The Brit. J. of Surg.* (1959) Vol. XLVI, No. 198, P. 357

Triacetyloleandomycin Evaluated

Over a period of months, the authors tested the clinical effectiveness of triacetyloleandomycin, a new antibiotic and a derivative of oleandomycin. Sixty-six patients who were suffering from various localized or soft-tissue infections were included in the group observed. In the majority of cases, Micrococcus pyogenes was found to be present. While susceptibility tests revealed that antibiotic resistance was somewhat prevalent, penicillin resistance was found most frequently. In divided doses, the daily amount of the triacetyloleandomycin ranged from 1.2 to 1.5 g.; the course of treatment varied from three to fifteen days. Many members of the group had received antibiotic therapy without benefit. On the other hand, the authors report that the response to triacetyloleandomycin was excellent in almost all cases. A number of patients experienced complete regression of acute febrile signs and symptoms within 24 to 48 hours. Four cases in which complications were predominant failed to respond. The most serious side-effect to be noted was a slight diarrhea which did not necessitate withdrawal of the drug. On the basis of the clinical results, the authors are of the impression that triacetyloleandomycin is a valuable therapeutic agent for the control of localized or soft-tissue infections. The drug is rapidly absorbed, and gives rise to high levels of antibiotic activity in the blood. It is excellently tolerated, gives rise to very minor side-effects, and is not known to have produced any toxic manifestations.

> M. LEFEBVRE, M.D., ET AL. Canadian Med. Assn. J., March 1959

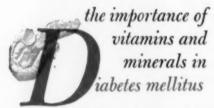
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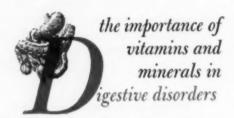
A RATIONALE FOR THERAPEUTIC VITAMIN-MINERAL

Subclinical vitamin-mineral deficiency in chronic degenerative disease

Most degenerative disease changes appear to be related to disturbances of cellular nutrition.¹ Subclinical vitamin or mineral deficiencies often occur despite an adequate caloric intake, and the consequent impairment of enzyme systems may injure body tissues.² Considerable evidence indicates that the vitamin reserve is frequently lowered to a serious degree in the older age groups most susceptible to degenerative disorders.³ Older persons also have increased requirements for such minerals as iron, iodine, copper, calcium and zinc.⁴,5,0



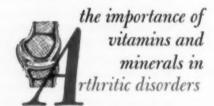
The diabetic has a higher requirement for the vitamin B-complex (especially nicotinic acid, thiamine, B₁₂, and riboflavin) than the normal individual. Great losses of calcium and potassium may occur during ketosis. Low tissue zinc levels have recently been reported in a series of diabetic patients. Metabolic deficiencies are frequently aggravated by diets which restrict or eliminate foods rich in essential co-factors. Administration of more than normal requirements often produces a decided clinical improvement and may help to prevent neuropathic changes.



Peptic ulcer diets are often deficient in essential vitamins. Symptoms attributable to B-vitamin deficiency are commonly observed in patients on such diets.¹⁰

Liver damage leads to faulty vitamin metabolism, and cirrhosis often produces severe vitamin deficiency. 11. 12 Pollack and Halpern recommend daily administration of therapeutic vitamins to patients with hepatitis or cirrhosis. 11 Large amounts of zinc are also lost by the cirrhotic patient. 18

Great care must be exercised to avoid excessive depletion of vitamins and minerals in ulcerative colitis, regional enteritis, and chronic diarrhea. Patients with extensive bowel resections may require up to six times the normal daily vitamin requirement.¹⁴

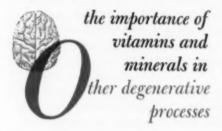


According to Spies, 15 nutritive failure is especially frequent in arthritic or rheumatic disorders. Some patients lose the desire to eat; some are too disabled to earn money to purchase required foods; still others are unable to perform all the necessary masticatory motions. Nausea and vomiting may prevent adequate absorption.

Therapeutic vitamins prevent or correct vitamin deficiency in the arthritic on an inadequate diet. In degenerative joint disease, vitamin therapy is recommended even when there is no demonstrable deficiency. 16 Mineral supplementation may help prevent the depletion of calcium and potassium that occurs during therapy with cer-

SUPPLEMENTATION

tain of the adrenal steroids. Iron17 may be useful in preventing the anemia common in arthritis.



Vitamins and minerals appear to play a role in many other degenerative processes associated with aging. Studies by Wexberg,18 Jolliffe19 and others indicate that many of the symptoms attributed to senility or cerebral arteriosclerosis respond with remarkable speed to the administration of vitamins. Pyridoxine and nicotinic acid may even play an important role in the prevention of atherosclerosis.

Vitamin or mineral deficiency may be an unrecognized factor in still other situations. As Kampmeier states:

"Who can say, for example, whether the patient chronically ill with myocardial failure may not have a poorer myocardium because of a moderate deficiency in the vitamin B-complex? Something is known of the relationship of vitamin C to the intercellular ground substance and repair of tissues. One may speculate upon the effects of a deficiency of this vitamin, short of scurvy, upon the tissues in chronic disease. Are there 'subclinical' degrees of vitamin deficiencies to search for, now that frank deficiency states have become so rare at least in the United States?"2

References: 1. Kountz, W. B.; Mod. Med. 25:102, Aug. 1, 1957. 2. Kampmeier, R. H.; Am. J. Med. 25:662, Nov. 1958. 3. Overholser, W. and Fong, T. C. C. in Stieglitz, E. J.; Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 264. 4. Kountz, W. B.: Indust. Med. 27:557. Oct. 1958. 5. Kountz, W. B. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 262. 6. Carlson, A. J. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 80. 7. Duncan, G. G.: Diseases of Metabolism, 4th edition, W. B. Saunders, Philadelphia, 1959, p. 812. 8. Griffith, C. and Hegde, B.: Illinois M. J. 115:12, Jan. 1959. 9. Pollack, H.: Am. J. Med. 25:675, Nov. 1958. 10. Sebrell, W. H.: Am. J. Med. 25:675, Nov. 1958. 11. Pollack, H. and Halpern, S. L.: Therapeutic Nutrition, National Academy of Sciences and National Research Council, Washington, D.C., 1952, p. 57. 12. Kark, R. M. in Wohl, M. G. and Goodhart, R. S.: Modern Nutrition in Health and Disease, Lea and Febiger, Philadelphia, p. 615. 13. Vallee, B. L. in Harrison, T. R.: Principles of Internal Medicine, 3rd edition, McGraw-Hill, New York, 1958, p. 474. 14. Warthin, T. A. and Monroe, K. E.: M. Clin. North America Sept. 1958, p. 1499. 15. Spies, T. D.: J.A.M.A. 167:675, June 7, 1958. 16. Solomon, W. M. in Stieglitz, E. J.: Geriatric Medicine, 3rd edition, J. B. Lippincott, Philadelphia, 1954, p. 627. 17. Ausman, D. C.: Journal Lancet 76:290, Oct. 1956. 18. Wexberg, E.: Am. J. Psychiat. 97:1406, 1941. 19. Jolliffe, N.: J.A.M.A. 117:1496, 1941.

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Diabetic Coma without Ketosis

"Three cases of diabetic coma without ketonuria are reported. The patients had a high blood sugar, moderate acidosis, low blood pressure, profound shock, glycosuria and proteinuria. The findings cannot be explained by the old theory of renal retention of ketones. As long as the blood sugar is very high there is little tendency to ketone formation in the liver. During shock the liver functions are known to be reduced by hypoxia. Thus also the ketogenisis in the liver may be impaired. The acidosis in these cases is considered to be caused by accumulation of lactic acid from anaerobic breakdown of carbohydrates known to take place in shock. The increased resistance to insulin in shock seems to be a result both of stress reaction and the depression of the liver functions. The theory is advanced that diabetic coma without ketosis is due to hepatocellular failure during shock. This pathogenesis may be confirmed biochemically by determinations of total ketones and lactic acid in blood before death."

PETER LEXOW Acta Medica Scandinavica, Vol. 163, Fasc. 2, P. 119

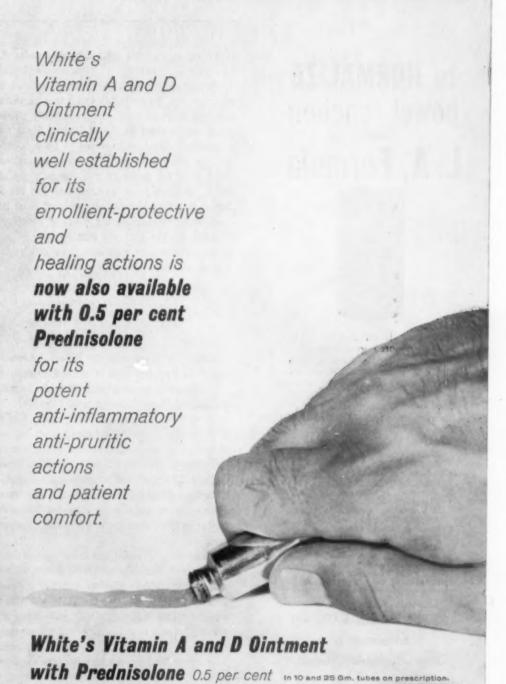
Prochlorperazine Evaluated

Prochlorperazine (Compazine) is a member of the chlorpromazine - promazine chemical group. It appears to act directly on the central nervous system. In animal tests, it produces a partial block of the conditioned reflex, indicative of strong neuroleptic activity. In patients, symptoms of fear, anxiety, and apprehension were markedly benefited. Over a period of seven months, the author treated 73 ambulatory psychoneurotic patients with prochlorperazine. The average dose of the drug was 5 mg. three times daily; the average duration of treatment was two months. Of the 66 patients who completed the test, 47 percent showed complete remission of psychogenic symptoms; 26 percent achieved good but not complete relief, and nine per cent showed some symptomatic improvement. No serious sideeffects developed. The author further states that the efficacy of prochlorperazine in the anxious, tense, apprehensive patient was reflected in good to excellent results achieved in 27 of 31 patients; in 13 of these individuals remission was complete. Results were especially

Concluded on page 218a



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- Dolkart, Dentler & Barrow, Ill. Med.J., 90:286, 1946
 Adler, Atkinson & Ivy, Am.J. Digest.Dis. 8:197, 1941

- Digest.Dis. 5:197, 1941
 Wozasek & Steigman, Am.J.
 Digest.Dis. 9:423, 1942
 Williams & Olmstead, Ann.Int.
 Med. 10:717, 1936
 Cass & Wolf, Gastroenterology,
 20:149, 1952.

*Abbreviation for the Latin "Levis Amplitudo", meaning amouth bulk.

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BURTON, PARSONS & COMPANY

Originators of

Washington 9, D. C.

gratifying in patients with chronic headache. In a total of 19 persons, 17 were benefited, and 12 of them experienced complete amelioration of symptoms. Six individuals with true migraine obtained marked relief, the pain being eliminated within eight to eleven hours. Since no tranquilizer could be expected to be a "cureall," the results achieved with prochlorperazine place it in the ranks of the definitely useful drugs. In these trials, environment was not a factor, therefore the success obtained must be attributed to the stabilizing effect of prochlorperazine on the patient's emotions by which he was enabled to approach daily challenges more realistically and courageously.

> JOHN F. SCHAEFER, M.D. American Practitioner, April 1959

Relation of Azotemia to Blood "Ammonium" in Patients with Hepatic Cirrhosis

"Four alert patients with chronic hepatic disease and azotemia had arterial blood NH4-N concentrations which were significantly higher than those of a group of patients with hepatic cirrhosis and normal blood urea nitrogen concentrations. Within 72 hours each of these patients developed symptoms indistinguishable from impending hepatic coma, and the blood ammonium nitrogen concentrations increased further in three patients in whom this measurement was made.

These data, if considered in the light of other observations, are consistent with the hypothesis that increased quantities of circulating blood urea may lead to elevated arterial blood NH4-N concentrations in patients with sufficiently abnormal hepatic function or portal circulations. Azotemia, by indirectly increasing the portal ammonium load, is an additional factor capable of precipitating or aggravating hepatic coma in some patients with cirrhosis of the liver."

LESLIE T. WEBSTER and GEORGE J. GABUZDA A.M.A. Arch. Int. Med. (1959) Vol. 103, No. 1, P. 21 a new member of the Lederle vitamin family...new cherry-flavored ... for infants and children



- Comprehensive multivitamin supplement designed for growing infants and active youngsters.
- Refreshing cherry taste, a flavor-favorite with children of all ages . . . no unpleasant aftertaste.
- Convenient to give—as syrup from the new pushbutton dispenser, or as pediatric drops from the 50 cc. bottle with handy calibrated dropper.

KEEPS them growing ... and going ... better!

VI-TYKE Syrup in 12 oz. dispenser can ... no spilling-no mess.

Each tsp. (5 cc.) daily dose contains: Vitamin A

(Palmitate) 3,000 U.S.P.	Timita
Vitamin D 800 U.S.P.	
This is HOU (D)	CHEER
Thiamine HCl (B ₁)	is mg.
Riboflavin (B2)	.5 mg.
Pyridozine HCl (Ba)	I mg.
Ascorbic Acid (C)	40 mg.
Vitamin B12 3	mcgm.
Niacinamide	
Pantothenic Acid (as Panthenol) .	1 mg.
Methylparaben	0.08%
Propylparaben	0.02%

VI-TYKE°

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

(VOL. 87, NO. 11) NOVEMBER 1959

2194



NEWS AND NOTES

Selected items of current interest from the fields of medical research and education.

Steps Listed for Saving Child from Plastic Suffocation

Since January at least 70 deaths, mainly in infants, have been attributed to plastic bag suffocation. Many children have died while playing with the bags or while the plastic film was being used as a make-shift pillowcase, mattress cover, or blanket protector.

Three steps for saving a child who is endangered by a plastic bag were outlined by the A.M.A.

- If the child's breathing has stopped, the immediate need is to restore breathing. If possible, call a neighbor or send for help. Ask that a fire department inhalator squad be summoned and that the nearest hospital be alerted.
- 2. Try to resuscitate the child, using the mouth-to-mouth technique recommended as the most effective method by the American Red Cross:
- —Place the child on his back and extend the neck back. Put a towel or pillow under the shoulders so the head drops back.
- —Lift and hold the lower jaw up to assure an open airway.
- —Place the other hand on the stomach to prevent its overinflation.
- —Place your mouth over the child's mouth and nose and blow in. After each breath, turn your head to the side, take another breath, and blow in again. Repeat 12 to 20 times a minute.
 - 3. If the child is suffering labored breathing,

is stunned, or has difficulty in movement, rush him to the nearest hospital.

The committee also said, "Despite the sudden awareness of the potential danger to infants and children, the convenience and utility which plastic offers as a covering material suggests that it will continue to be used."

It is therefore imperative that parents take precautions. They are:

- Do not give plastic bags or plastic film in any form to children to play with.
- 2. After plastic bags and wrappers have served their purpose, destroy them.
- 3. Do not use plastic film as slip covers for pillows and mattresses or as blanket protectors.

Younker Memorial Rehabilitation Center

The Younker Memorial Rehabilitation Center of Iowa Methodist Hospital, Des Moines, was opened recently. The 120-bed unit, which has out-patient facilities for 150, is an integral part of the 400-bed general Iowa Methodist Hospital. A complete rehabilitation service is offered. Dr. Donald A. Covalt, Associate Director of the Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, was consultant for planning the center. The three-million-dollar unit has six floors; the first contains speech therapy facilities, dental unit, refraction room, audiology room, and office areas; the second, occu-

Continued on page 224a

ANTIGAN

(sulfinpyrazone GEIGY)

High Potency Uricosuric Agent

By significantly increasing renal excretion of urate and thus lowering plasma uric acid, the new highly potent uricosuric agent ANTURAN strikes directly at the basic metabolic defect in gout.

Exceptionally high potency...4 to 6 times that of probenecid ... is the outstanding characteristic of Anturan. The effectiveness of Anturan is retained indefinitely and tolerance to it is good.

Clinically, ANTURAN:

- · Prevents formation of new tophi
- Causes gradual absorption of old tophi
- · Relieves chronic pain
- · Restores joint mobility

ANTURAN is not designed for the treatment of acute attacks for which Burazouldin is recommended. Detailed Information on Request

TYU, T. F. Burns, J. J., and Gutman, A. B. Arth. & Rneumat. 1532, 1958.

ANTURAN (sulfinpyrazona, GE(GY) Scored tablets of 100 mg. in bottles of 100.

Ardsley, New York

Now

in inflammatory anorectal disorders . . .

The Promise of Greater Relief

the first suppository to contain

hydrocortisone for effective control of proctitis

- Proctitis accompanying ulcerative colitis
- Radiation proctitis
- Postoperative scar tissue with inflammatory reaction
- · Acute and chronic nonspecific proctitis
- Acute internal hemorrhoids
- Medication proctitis
- Cryptitis



Ulcerative Colitis



Radiation Proctitis



Postoperative Scar Tissue

Supplied: Suppositories, boxes of 12. Each suppository contains 10 mg. hydrocortisone acetate, 15 mg. extract belladonna (0.19 mg. equiv. total alkaloids), 3 mg. ephedrine sulfate, zinc oxide, boric acid, bismuth oxyiodide, bismuth subcarbonate, and balsam peru in an oleaginous base.

Wyanoids HC

Rectal Suppositories with Hydrocortisone, Wyeth





The check is the only price this ulcer patient pays

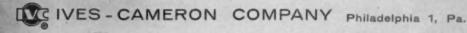
There are times, of course, when ulcer patients cannot be permitted a full diet. In general the fewer those times the better.

PEPULCIN permits your patients a full, normal diet, provides antisecretory, antacid and antihemorrhagic activity. It requires only a few doses daily. Renal, hepatic, or hematological dysfunction has not been reported.

Comprehensive literature available

PEPULCIN

Scopolamine Methyl Nitrate, Aluminum Hydroxide, Magnesium Hydroxide, and Ascorbic Acid
SUPPLIED: Tablets, bottles of 100.



pational and recreational facilities; the third, hydrotherapy facilities, large gymnasium, and all-purpose rooms, and the upper floors, the bed areas, with 40 beds to each floor.

The Younker Memorial Rehabilitation Center accepts for evaluation any patient referred by a local physician as well as referrals from social agencies and organizations. Persons under the care of a physician are accepted for initial examination to the acute section of the Iowa Methodist Hospital. If rehabilitation treatment is recommended in the Center, the patient is transferred directly into the rehabilitation building.

Research at University of North Carolina School of Medicine

The National Science Foundation has awarded a grant in the amount of \$16,560 to the University of North Carolina School of Medicine to be used for research projects. These research projects are conducted by medical students during the summer months while school is not in session. The grant will provide for eight fellowships a year for the next three summers.

Although the program of summer research for medical students has been in effect at the school for a number of years, this will mark the first summer that it has been supported by a grant from the National Science Foundation. Approximately 40 students are engaged in research work each summer. Each student works under the supervision of a faculty member.

The University of North Carolina School of Medicine is one of the few medical schools that requires a written thesis for the M.D. degree. Many of the students use these research projects as the basis of their theses. Funds for these research projects also are received from the U.S. Public Health Service, the Tobacco Industry Research Committee, the National Foundation, and the United Medical Research Foundation of North Carolina.

Continued on page 226a

'PREMARIN" INTRAVENOUS increases prothrombin concentration increases accelerator globulin and simultaneously depresses antithrombin activity within 15 to 30 minutes. Thus, coagulation is enhanced

a single injection of

PRE & POST-OP

in every type of surgery

"PREMARIN" INTRAVENOUS

the physiologic hemostat

CONTROLS
BLEEDING
EFFICIENTLY
AND SAFELY

The definite value of "PREMARIN" INTRAVENOUS in clearing the operative field, minimizing blood loss, and preventing postoperative hemorrhage is being consistently reported in patients undergoing ophthalmologic, EENT, Ob. Gyn., urologic, and oral surgery. The wide range of application for "PREMARIN" INTRAVENOUS also includes spontaneous hemorrhage (epistaxis, gastrointestinal bleeding, etc.) as well as bleeding during and after surgery.

Over 1,000,000 injections have been given to date without a single report of toxicity.

"PREMARIN" INTRAVENOUS (conjugated estrogens, equine) is supplied in packages containing one "Secule" providing 20 mg., and one 5 cc. vial sterile diluent with 0.5% phenol U.S.P. (Dosage may be administered intramuscularly to small children.)

1. Johnson, J. F.: Paper presented at Symposium on Blood, Wayne State University, Detroit, Michigan, Jan. 78, 1957; cited in M. Science 1:33 [Mar. 25] 1957; Proc. Soc. Exper. Biol. & Med. 94:92 (Jan.) 1957. 2. Published and unpublished case reports, Ayerst Laboratories, 3. Rigg, J. P.: Digest Ophth. & Otolaryng. 20:28 (Nov.) 1957. 4. Rigual, R.: Ibid., p. 3. 5. Servoss, H. M., and Shapiro, F.: (Ibid., p. 10.) 6. Menger, H. C.: J.A.M.A. 159:546 (Oct. 8) 1955.

ayerst

AYERST LABORATORIES

New York 16, N. Y. . Montreal, Canada

Vegetable Oils and Young Acne Sufferers

Vegetable oils, commonly used in cooking and in salads, have come to the aid of dietconscious teen-agers, who suffer from acne, the so-called "pimples" of adolescence.

Dr. W. R. Hubler, Corpus Christi, Texas, said that corn oil, used as a dietary supplement, prevented weight loss and fatigue often associated with low fat diets, a frequent acne treatment.

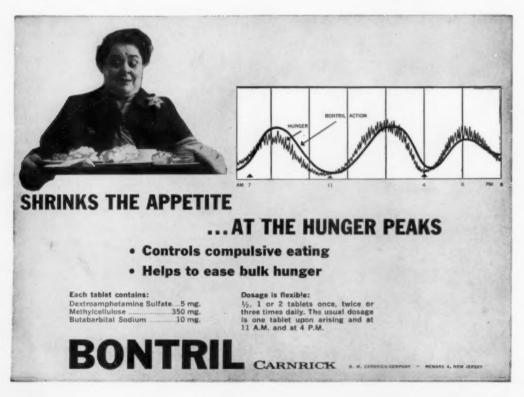
Working with three different groups of acne patients, Dr. Hubler reported in *Archives of Dermatology*, that corn oil was especially well tolerated and "made unpleasant low-fat diets more palatable."

He said that in one group there was a remarkable improvement in the skin and general condition of five patients. "None of the patients became worse when corn oil was added to their diets," he said. In another group of 180 patients studied, he said that the acne condition "seemed to subside more rapidly than in patients treated prior to the use of corn oil." He said that out of the 180 patients, he had to resort to x-ray treatment in only five in order to produce clearing of their acne.

Even patients who suffered from acne in its worst form "improved with remarkable rapidity" with oral use of corn oil, he said in his article. "All of my acne patients," Dr. Hubler stated, "now are allowed to use corn oil freely in their diets. Seventy-five patients have also used an unsaturated corn oil oleomargarine on their bread without . . . deleterious effects."

The Texas physician pointed out also that in his studies he found that ingestion of corn oil did not influence the normally low cholesterol levels of the teen-agers in any way.

Continued on page 228a



Bronchodilator action of oral ELIXOPHYLLIN®

As shown by clinical observations:

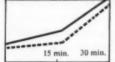
Acute asthmatic attacks were terminated in 10 to 30 minutes after a single oral dose in 91 of 107 patients (85%), 1,2,3,4

Chronic asthmatic symptoms were also well controlled and frequency of attacks markedly reduced in most patients by desage every 8 hours. 1,3,4

As shown by pulmonary function tests:

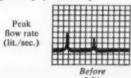
Spirometric studies in acetylcholineinduced asthma showed oral Elixophyllin equivalent in therapeutic effects to intravenous aminophylline (500 mg.) and comparable both prophylactically and therapeutically to tests:
subcutaneous epinephrine.
Further pulmonary function studies

after doses of 60 or 75 cc. Elixophyllin demonstrated increases in vital capacity and maximum breathing capacity as shown below:



Vital capacity increase of 30.6% in 30 minutes—average of 69 patients. ^{1,5,6} Maximum breathing capacity increase of 25.7% in 30 minutes—average of 49 patients. ^{5,6}

Improved cough efficiency as shown in a patient with bronchial asthma following Elixophyllin dosage of 75 cc.:⁷



After 30 min.



Volume exhaled (liters) increased from 0.076 to 0.391 after 30 minutes, and to 0.805 after 60 minutes.

In a series of 25 patients receiving a single dose of 60 or 75 cc. Elixophyllin, the efficiency of the cough response was markedly enhanced, with a mean increase of 33% in rate of air flow and over 100% in the volume of air expelled on maximal cough.⁷

For the bronchospasm of acute and chronic asthma, emphysema, and bronchitis. Elixophyllin provides prompt, sustained relief

without undesirable effects of other medications such as: sympathomimetic stimulation, barbiturate depression, or suppression of adrenal function. This oral theophylline therapy is virtually free from gastric side effects.

DOSAGE: For acute attacks, a single dose of 75 cc. for adults, or 0.5 cc. per lb. body weight for children.

For chronic symptoms, doses at 8-hour intervals (before breakfast, at 3 P.M., and before retiring) in amounts as follows: for adults - 45 cc. doses first two days, gradually reduce to 30 cc. doses; for children - doses of 0.3 cc. per lb. body weight for first two days, gradually reduce to 0.2 cc. per lb. body weight.

Each tablespoonful (15 cc.) contains: theophylline 80 mg. (equivalent to 100 mg. aminophylline) in a special hydroalcoholic vehicle assuring rapid, dependable absorption (alcohol 20%).

Spielman, D.: Ann. Allergy 15:270, 1987.
 Schluger, J. et al.: Am. J. Med. Sci. 234:28, 1957.
 Kessler, F.: Connecticut St. M. J. 21:205, 1987.
 4. Greenbaum, J.: Ann. Allergy 16:312, 1988.
 F. Frank, D. E.: Antibiotic M. 6:338, 1959.
 6. MacLaren, W. R.: To be published.
 7. Bickerman, H. A. et al.: Sci. Exh., A.M.A. Convention, June 1959.

Sherman Laboratories

Community Pessimism Retards Mental Illness Recovery

A pessimistic attitude on the part of the community is responsible for sending many discharged mental patients back to hospitals.

This conclusion was voiced in the J.A.M.A. by Erwin L. Linn, Ph.D., Bethesda, following a study of 582 patients who had been treated during 1955-56 with the then new tranquilizing drugs chlorpromazine and reserpine.

Of the 582 patients, Dr. Linn said that 39 percent were released to the community and remained there for one year, but were then readmitted to the hospital. He attributes this to an optimistic attitude on the part of the hospital staff which has not been transferred to the community.

The effectiveness of treatments with the tranquilizing drugs is credited by Dr. Linn with creating the optimistic attitude in the hospital. The successful results gave the staff members

a feeling of confidence which led to a more optimistic and helpful approach to the patient.

He continued, "Staff optimism arose because the hospital witnessed within a relatively short time a dramatic improvement in the usual behavior of its patient population. The families or friends of released patients had no similar institutional experience."

Dr. Linn added that if the patients recovered because of staff optimism, they were likely to relapse on release because they were no longer sustained by such optimism.

He commented, "The lower hyperactivity of the 1955-56 patients and their higher release rate may have ensued from a change in the attitude of the staff from skepticism concerning drug therapies to a sense of expectancy that they would work.

A staff relieved of many tensions, with time freed from control of hyperactivity, with a

Continued on page 230a



Active Ingredients: Methylbenzethonium chloride 1:1000, in a petrolatum and glycerin base.

HOMEMAKERS PRODUCTS DIVISION • GEORGE A. BREON & CO., 1450 BROADWAY, NEW YORK 18, N. Y.



you control more than high blood pressure with

Serpasil-Esid

POTENTIATED ANTIHYPERTENSIVE

Serpasil-Esidrix not only lowers blood pressure, it controls complications of hypertension, too. For example, it rapidly eliminates excess fluid in decompensated patients with edema. And, through its heart-slowing and

calming actions, Serpasil-Esidrix also relieves the tachycardia and anxiety that so often accompany hypertension. Equally important: Esidrix combined with Serpasil frequently reduces pressure to lower levels than single-drug therapy. Potentiated antihypertensive effect-single-tablet convenience. SUPPLIED: Tablets (light orange, scored), each containing 0.1 mg. Serpasil and 25 mg. Esidrix. SERPASIL®-ESIDRIX® (reserpine and hydrochlorothiazide CIDA)



mounting sense of hope for patient improvement, could not fail to communicate its enthusiasm to all patients, he said,

Dr. Linn concluded that the discontinuity in optimism between hospital and community explains why patients treated with tranquilizers are more likely to return to the hospital within one year than had earlier patients.

Cold Foot May Indicate "Silent" Heart Attack

Coldness of one foot suddenly occurring after an operation may be a sign of a "silent" heart attack, a New Jersey physician said.

The coldness is the result of a circulatory block in the leg, caused by a blood clot carried from the heart, Dr. Nathan Frank, Jersey City, said in the J.A.M.A.

He believes that some sudden postoperative

deaths attributed to pulmonary embolization (blood clots originating in the artery leading to the lungs and moving to the heart) may actually be the result of silent myocardial infarctions.

Whenever a person suddenly develops a coldness of one foot 4 to 21 days after surgery, silent myocardial infarction should be considered as a cause, he said.

In reporting three cases of cold foot following surgery, Dr. Frank said the syndrome had not been previously described.

It is "of great clinical significance," he said, because, if unrecognized, it may cause death, especially with the trend to early ambulation after surgery.

He recommended that patients be questioned daily about the presence of pain and coldness in the foot and calf. In addition, all patients should be given an electrocardiographic examination before surgery to determine the presence of old myocardial infarctions. If they are present, precautions against the development of embolism can then be taken, he said.

Dr. Frank is associated with the Jersey City Medical Center and Seton Hall College of Medicine and Dentistry.

New Hospital in Denver

Plans are underway for a new multiphased hospital for the Sisters of Mercy of Colorado. The eight-story, 500-bed structure will occupy an entire city block at the present site of the Mercy Hospital in Denver. The progressive patient-care plan for which arrangements are being made will handle patients in intensive, intermediate-, and convalescent-care units. Nursing care will be provided according to the needs of the group. In addition, there will be a 200-bed home for senior citizens who require some medical supervision. Hospital facilities will include rehabilitation, occupational therapy, recreational and central dining areas for ambulatory patients.

Continued on page 232a





in the adjustment of School-Age Problem Children

when intelligence is masked by behavior problems, in the absence of organic cause

- Improves scholastic performance...
- Lengthens attention span...
- Improves social adaptability...

kidney disease, or infectious diseases.

Decreases irritability

Dosage

75 mg. (3 tablets) in the morning is the recommended starting dose. After two weeks, or whenever satisfactory improvement has occurred, a reduced dose may maintain this improvement in some cases; however, optimal response has been reported in most children on maintenance doses ranging from 75 mg. (3 tablets) to 150 mg. (6 tablets) per day.

Contraindications

'Deaner' therapy is contraindicated only in grand mal epilepsy and in mixed epilepsy with a grand mal component.

Deaner may be given with safety to patients with previous or current liver disease,

Riker Northridge

Unusual Skin Disease Reported

An unusual skin disease—sweat band dermatitis — was reported by a Boston dermatologist in the J.A.M.A.

Dr. George E. Morris, a member of the A.M.A. Committee on Occupational Dermatoses, said sweat band dermatitis has not been reported recently in the United States because tanning materials containing chrome—a common cause of such skin disorders as shoe leather dermatitis—are not used in the preparation of sweat bands.

However, Dr. Morris has seen three cases of sweat band dermatitis in recent months. One resulted from a sensitivity to chrome, but not because it was present in the sweat band.

The man worked in a tannery. He was sensitive to tanning substances and had a rash on hands, arms and other parts of the body that were in contact with the tanning solution. He developed the sweat band dermatitis because he had been wiping the perspiration off the sweat band with his hands, which were contaminated with the tanning solution.

The other two cases were not related to tanning substances. One man was sensitive to the material used to "finish" the paper sweat band of a painter's cap. The other was sensitive to the oil used in the ropes with which he worked. The sweat band dermatitis developed when he wiped the sweat band of the cap with his hands which were contaminated with oil.

Dr. Morris noted in conclusion that sweat band dermatitis is usually caused by a finishing agent for paper or synthetic fibers or by substances rubbed onto the sweat band by the hands.

Continued on page 235a

IN ANEMIA OF PREGNANCY

Roncovite "...was selected because it has, in clinical trials previously reported, proved to be the most effective hematinic for the pregnant woman."

> —Holly, R. G., and Grund, W. J.: Am. J. Obstet. & Gynec. 77:731 (April) 1959.

RONCOVITE-mf

Each tablet contains. Cabalt chloride (Cabalt as Co...3.7 mg.)...15 mg. Ferrous sulfate exsiconted...100 mg.

Dosage: The maximum adult dose of Roncovite-MF and Roncovite-OB is one tablet after each meal and at bedtime.

LLOYD BROTHERS, INC.

CINCINNATI 3, OHIO



in eight years Novahistine hasn't cured a single cold—but it has brought prompt relief of symptoms to almost 8,000,000 patients*



With the introduction of Novahistine, a better and safer way to relieve symptoms of a cold became available to physicians. The synergistic action of the Novahistine formula...combining an orally-effective vasoconstrictor with an antihistamine... promptly clears the air passages and checks irritant nasal secretions. NOVAHISTINE can eliminate the problem of rebound congestion and damage to nasal mucosa in patients who misuse topical applications. • For long-lasting "Novahistine Effect" prescribe Novahistine LP Tablets... which begin releasing medication as promptly as conventional tablets but continue bringing relief for 8 to 12 hours. Two Novahistine LP Tablets in the morning and two in the evening will effectively control the average patient's discomfort from a cold. Each tablet contains phenylephrine HCl, 20 mg., and chlorprophenpyridamine maleate, 4 mg.

*Based on National Prescription Audits of new Novahistine prescriptions since 1952.



PITMAN-MOORE COMPANY Division of Allied Laboratories, Inc. . Indianapolis 6, Indiana



FOR VAGINAL HYVA MONILIASIS GENTIAN VIOLET VAGINAL TABLETS

The Only Specific Antimycotic Vaginal Tablet With A Gel Forming Base

A new vaginal therapy specifically designed to produce unmatched and outstanding results. Methylrosaniline chloride (gentian violet) has generally proved the most effective and specific agent for the treatment of vaginal candidiasis caused by the fungus Candida.

Hyva Gentian Violet Tablets virtually eliminate the principal disadvantages of present gentian violet preparations. They may be handled without staining and have psychological and aesthetic acceptance.

Hyva combines the fungicidal action of gentian violet (1.0 mgm.) with three active surface reducing agents and bactericides." These active ingredients have been incorporated into a mildly effervescent "gel" forming base which provides for maximum and prolonged effectiveness. Shorter treatment time is required without the usual messiness normally experienced.

One tablet intravaginally for 12 nights. When necessary one tablet twice daily may be recommended. Patient should take a Nylmerate Solution water douche on arising and preceding next tablet application.

AGGA AGGA

Prescribe Hyva Gentian Violet Tablets-boxes of 12 tablets.

*Alkyldimethylbenzylammonium chloride (0.5 mgm.) Polyoxyethylenenonylphenol (10.0 mgm.) Polyethlene Glycol Tert-Dodecylthioether (5.0 mgm.)

WRITE FOR DESCRIPTIVE LITERATURE

HOLLAND-RANTOS COMPANY, INC. . 145 HUDSON STREET, NEW YORK 13, N. Y.

women of childbearing age... and growing children... U

OVERDRAWN AT THE BLOOD BANK

Women of menstrual age and growing children have higher iron requirements than other individuals. Hence iron-deficiency anemias occur most often in these groups. Many clinicians recognize that most women need a hematinic for six weeks each year during reproductive years.

Livitamin, with peptonized iron and B complex, offers an excellent formula to restore depleted iron reserves in both adults and children. Peptonized iron is well absorbed and stored, and better tolerated than ferrous sulfate. B complex and other factors provide nutritional support.









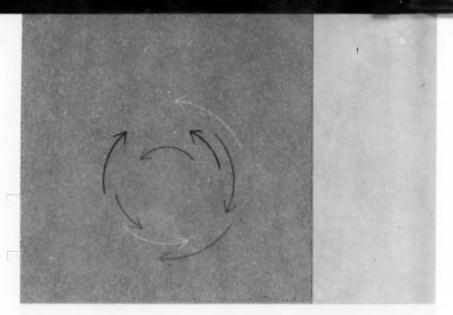
LIVITAMIN

FORMULA: Each fluidounce contains: Iron peptonized 420 mg. (Equiv. in elemental iron to 71 mg.) Manganese citrate, soluble 158 mg. Thiamine hydrochloride 10 mg. Riboflavin 10 mg. Vitamin B₃₂ Activity (Derived from Cobalamin conc.) 20 mcg. 50 mg. Nicotinamide Pyridoxine hydrochloride 1 mg. Pantothenic acid 5 mg. Liver fraction 1 2 Gm. 1 Gm. Rice bran extract Inositol 30 mg. Choline 60 mg. SUPPLIED IN LIQUID OR CAPSULE.

with Peptonized Iron

The S.E. MASSENGILL Company

BRISTOL, TENNESSEE . NEW YORK . KANSAS CITY . SAN FRANCISCO



Livitamin assures patient acceptance because it is highly palatable. Peptonized iron provides a virtually predigested form of iron. Recent studies* show peptonized iron has these advantages:

- Rapid response in iron-deficiency anemias
- Non-astringent
- · Absorbed as well as ferrous sulfate
- Better gastric toleration than ferrous sulfate
- Less constipating than ferrous sulfate



... the preferred hematinic

*Keith, J.H.: Utilization and Toxicity of Peptonized Iron and Ferrous Sulfate, Am. J. Clin. Nutrition 1:85 (Jan.-Feb., 1957).

The S. E. MASSENGILL Company BRISTOL, TENNESSEE

NEW YORK . KANSAS CITY . SAN FRANCISO

New Blood Bank to Have Permanent Building

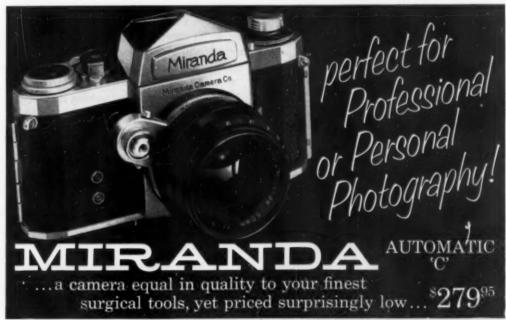
According to Dr. Kenneth E. Gardner, its President, ground was broken on September 12, 1959 for the Ballantine Memorial Essex County Blood Bank building in East Orange. New Jersey. A \$250,000 contribution for the land and building was given by P. Ballantine & Sons as a memorial to employees of Newark who gave their lives in service in World War II. The blood bank was organized in 1947. and there were 1,457 donors during the first year. The 1958 donor total was 17,170. The nine chapters of the American Red Cross recruit blood donors from the 22 Essex municipalities as well as from Kearny, Harrison, and Arlington. The 26 hospitals in the area use a total of about 30,000 units of blood a year, with more than half of this amount being provided through the Essex County Blood Bank.

On Caring for Radiation Victims

● The nation's hospitals have been warned to get ready to handle victims of nuclear accidents which can be expected to result from increased peacetime use of the atom. The word came from a panel of authorities including the medical directors of the Oak Ridge and Brookhaven National Laboratories. The experts set minimum facilities, equipment, and personnel training standards for hospital nuclear emergency programs.

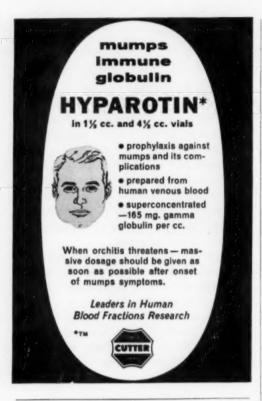
At present, no non-governmental hospital in the country is ready to provide adequate examinations for persons suspected of contamination, or to care for more than a very few nuclear casualities at a time. However, many hospitals could develop adequate nuclear accident programs without major construction or capital expenditure. Many of the facility

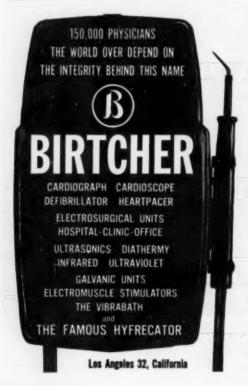
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MIRANDA 'C', the parallax-free single-lens reflex camera with fully automatic lenses, has every convenience feature: fast 50mm f/1.9 lens; instant-return mirror; speeds up to 1/1000th; plus a full complement of accessories. Provides natural, full-color photo-records for general practitioners, dermatologists, orthopedists, etc.

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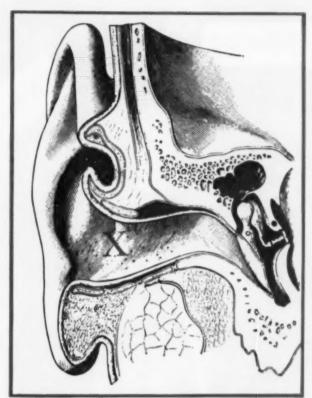
and equipment needs for the care of radiation victims can be met with the standard resources of the average well-planned and operated institution. A functional prerequisite is a comprehensive emergency plan providing for the availability of these resources in time of need, but allowing for their routine utilization in diagnosis, therapy, and research at other times.

Among nuclear emergency facilities required by hospitals are a receiving ward or suite capable of handling contaminated persons with complete facilities for their decontamination; whole body radiation counter; examination and surgical rooms; a hematology section; a radioassay laboratory; patient care rooms; adequate bone marrow, blood, and drug reserves. Optional additional facilities for research and training include a total body irradiation facility and a medical reactor.

Declaring that there is sufficient justification for planning and preparing facilities for care of radiation exposure victims, the report points to nuclear accidents which have occurred at various locations both here and abroad. An ever-increasing number of power reactors are being built in this country, and the use of nuclear power in ships is rapidly developing. Research and training reactors are being constructed on an assembly-line basis. Nuclear weapons are stored in many areas and are constantly being transported from one site to another. With this continually expanding amount of potential radioactive contaminants to which our population may be exposed, the medical profession must take steps to care for individuals who have been or might have been exposed to any possible form of ionizing radiation.

The actual care of radiation victims is, of course, most important. However, proper examination of individuals routinely exposed to radiation in the course of their work, and of people who have possibly been exposed to overtolerance doses is mandatory. From a medicolegal standpoint, there are very few medical

Continued on page 240a



OTITIS EXTERNA
AND CHRONIC OTITIS MEDIA WITH
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\$.5 mg. neomycin (from sulfate) and 50 mg. sodium propionate per cc. — in 15 cc. dropper bottles.

*Lawson, G. W.: Diffuse Otitis Externa and Its Effective Treatment, Postgrad. Med. 22:501, (Nov.) 1957.

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tranquilization

anti-emetic

greater specificity
of tranquilizing action
—divorced from such
"diffuse" effects as
anti-emetic action
—explains why

MMARIA RIL

THIORIDAZINE HC

is virtually tree of such toxic effects as jounding. Parkinsonism a bland dyserasia

"Thioridazine [MELLARIL] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines....This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."

a new advance in tranquilization: greater specificity of tranquilizing action results in fewer side effects

The presence of a thiomethyl radical (S-CH $_3$) is unique in Mellaril and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:

1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.



- 2 Less "spill-over" action to other brain areas hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.
- 3 A notable absence of extrapyramidal stimulation.
- 4 Lack of impairment of patient's normal drive and energy.
- 5 Virtual freedom from such toxic effects as jaundice, photosensitivity, skin eruptions, blood forming disorders.

RIL
Hinimal suppression of vomiting
ittle effect on blood pressure nd temperature regulation
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S ng suppression of vomiting
pening of blood pressure
temperature regulation
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INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANG
ADULTS: Mental and Emotional Disturbances:		
MILD - where anxiety, apprehension and tension are present	10 mg. t.i.d.	20-60 mg.
MODERATE—where agitation exists in psychoneuroses, alco- holism, intractable pain, senility, etc.	25 mg. t.i.d.	50-200 mg.
SEVERE — in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.:		
Ambulatory	100 mg. t.i.d.	200-400 mg.
Hospitalized	100 mg. t.l.d.	200-800 mg.
CHILDREN: BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.

MELLARIL Tablets, 10 mg., 25 mg., 100 mg.

*Ostfeld, A. M.: Scientific Exhibit, American Academy of General Practice, San Francisco, April 6-9, 1959



centers in this country which could perform complete examinations. Hospitals may anticipate emergency situations in the following areas: locations in the United States where the nuclear reactor program, with about 370 reactors under construction or definitely planned, is being carried out; power reactors in use by or planned by the Armed Forces and maritime service; nuclear weapons being transported or stockpiled; fissionable materials and waste materials being transported from reactor to processing plant, and general use of radioactive materials in industry, medicine, and research. The probability of radiation injury associated with each of these areas of nuclear use is small on the basis of individual cases, but the sum total of these probabilities adds up to an increasingly significant hazard

threat as nuclear materials are handled in larger quantities and more diverse circumstances.

• A special emergency procedure to handle victims of radiation accidents is being established at the University of Michigan Medical Center. A team of specialists, including physicians, surgeons, nurses, medical technicians, and health physicists, will work together to provide prompt diagnosis and treatment for patients exposed to extensive radiation.

Dr. William H. Beierwaltes, Chief of the University of Michigan clinical radioisotope unit and team coordinator, said the new plan was developed because of the growing use of radioactive substances by industries and research laboratories throughout Michigan and

Continued on page 252a



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*Fox, C. F.: The Treatment of Common Stin Diseases, G.P., 29:1 (July) 1959,
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O'Doherty & Shields *	17	"excellent"	2	1	0
Park [®]	28	"significant" 27	-	2	1
Plumb*	60	"gratifying" 55	-	_	5
TOTALS	236	184	34	4	14

- Highly potent—and long acting. 1,2,3
- Relatively free of adverse side effects.^{1,2,3,5,6}
- In ordinary dosage, does not reduce muscle strength or reflex activity.¹

REFERENCES: 1. Carpenter, E. B.: Southern M. J. 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Lewis, W. B.: California Med. 90:26, 1959. 4. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 5. Park, H. W.: J.A.M.A. 167:168, 1958. 6. Plumb, C. S.: Journal-Lancet 78:531, 1958.

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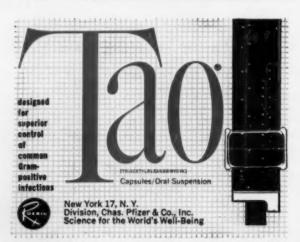
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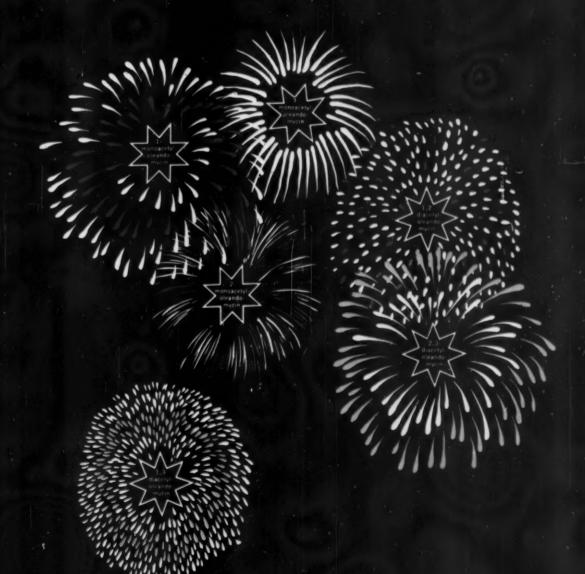
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northern Ohio. It is pointed out that this is not a war plan, nor is it designed to handle a massive number of casualties from nuclear attack. It is simply a provision for handling the unusual medical problems which might result from the increasing use of radioactive materials in modern civilization.

As now envisioned, radiation emergencies will be handled separate from the regular emergency service because of the different apparatus required, and the expected nature of the injury. The victim of a radiation accident will be checked for radioactivity by a Geiger counter at the emergency entrance of the Medical Center. The first treatment will be a drenching shower to remove any radioactive particles from his body. If the patient is wounded, a surgeon and anesthetist will be on hand to treat him. For several days, samples of the patient's blood, sputum, and urine will be checked for evidence of radiation effects. At the scene of the accident, physicists will attempt to calculate the exact amount of radiation which the victim might have received.



Dr. Henry L. Bockus

More than 180 practicing physicians from the United States, Europe, Africa, the Near and Far East, and Latin America attended the first annual meeting of the Bockus International Alumni Society of Gastroenterology at Philadelphia recently. The Society was organized in the spring of 1958 in honor of Dr. Henry L. Bockus, Professor and Chairman of the Department of Medicine of the University of Pennsylvania Graduate School of Medicine. Membership is comprised of gastroenterologists from all over the world who have trained under the Doctor's direction.

Multiple Sclerosis Service at the Wayne State University College of Medicine

A consulting and diagnostic service for mulple sclerosis patients has been established at Wayne State University College of Medicine. The service is sponsored by a \$20,000 grant from the Michigan Chapter of the National Multiple Sclerosis Society. Dr. John T. Mc-Henry, Associate Professor of Neurology and Director of the new Multiple Sclerosis Clinic said that under the terms of the Society's affiliation, the Department of Neurology will provide neurological supervision and clinical evaluations for the referring physician. The ultimate responsibility for patient care rests with the family physician, and it is he who should initiate those community resources available and medically approved. Research projects into the cause of multiple sclerosis will also be conducted by the Department of Neurology. Physical therapy and related treatments will be administered at the Rehabilitation Institute of Metropolitan Detroit and other community rehabilitation agencies. Abraham Brickner, Executive Director of the Michigan Chapter of the Multiple Sclerosis Society said that an estimated 250,000 young adults between the ages of 20 and 40 have this affliction; 10,200 of them are in Michigan.

Concluded on page 256a

over 36 females and over 13 males in every 1,000 are chronically constipated*

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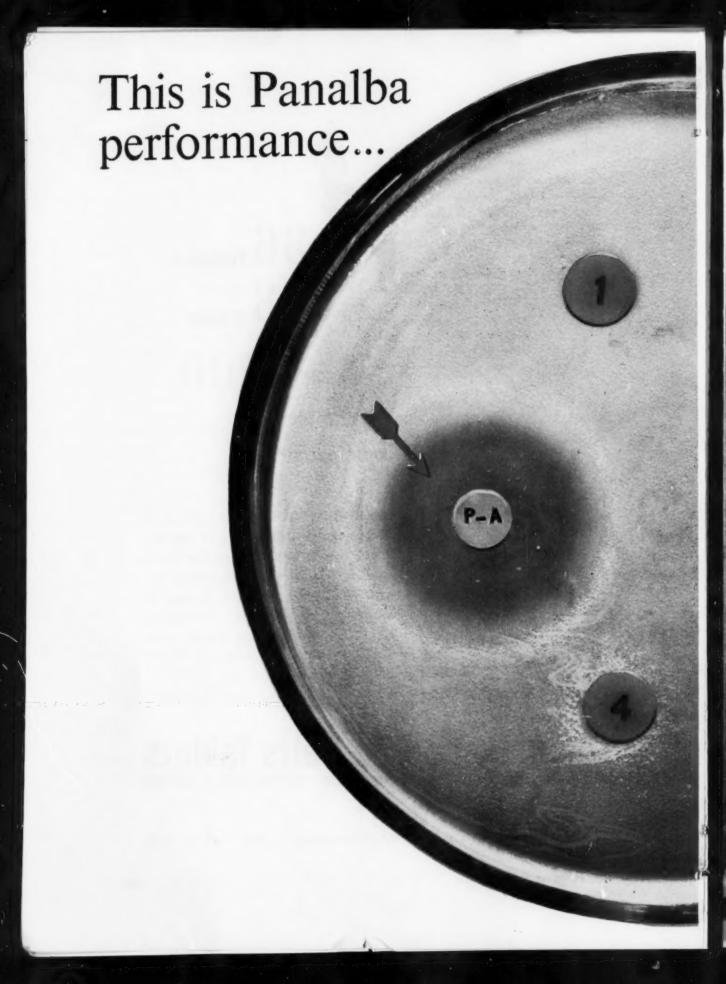
*Modern Medicine Topics, vol. 19, no. 7 (July) 1958.

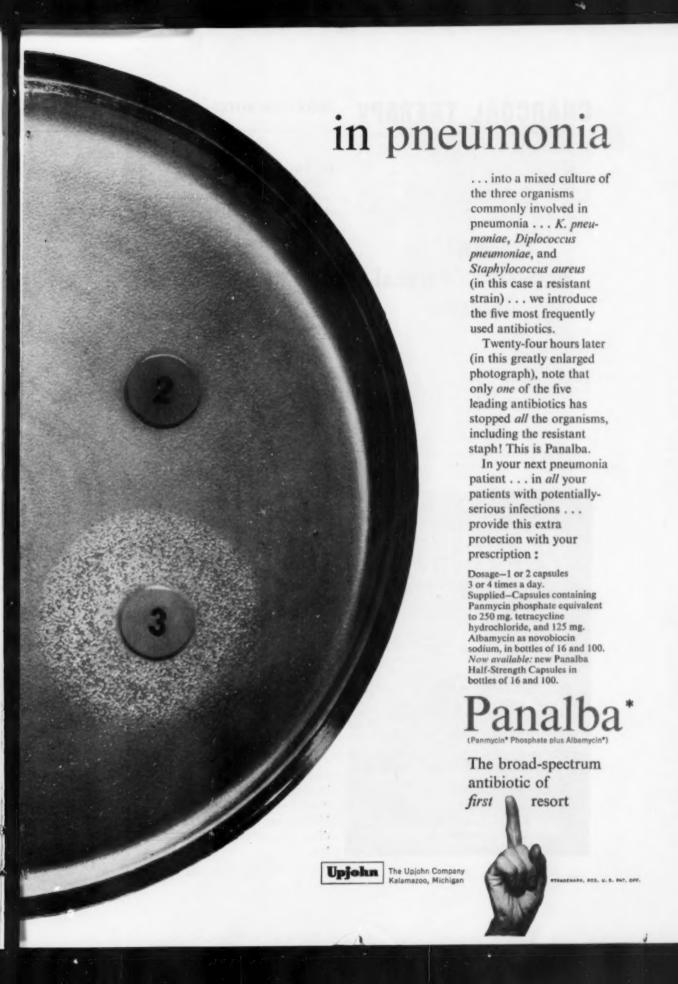
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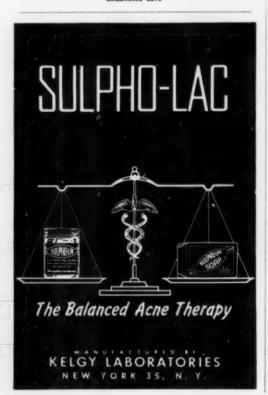
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Dr. Victor H. Hildvard

Dr. Victor H. Hildyard was appointed Assistant Professor and Head of the Division of Otolaryngology, University of Colorado School of Medicine, Denver. He had formerly been in private practice in Los Angeles where he was Clinical Instructor in his specialty at the University of Southern California.

Isolation of Newborn Infants With Thrush Unnecessary

Isolation of newborn infants with thrush, a mild fungal infection of the mouth and throat, is unnecessary, according to four New York researchers.

Most city health regulations require the removal of infected infants from the regular hospital nursery to an isolated area. This is expensive, complicated, and unnecessary, the researchers wrote in the J.A.M.A.

Soft white patches appear in the mouth and throat in thrush. They are caused by the fungus Candida albicans, which also causes other human infections, including a vaginal infection during pregnancy.

Thrush has commonly been believed to be an air borne infection; however, the fungus has not been isolated from nursery and hospital air or from soil and air in general, the authors said.

The most common source of infant infection is maternal vaginal infection, the authors said. Newborn infants may harbor Candida albicans in the mouth and intestine for five to six days before the disease becomes apparent and the patients are removed to the isolation nursery; thus unsuspected foci of infection are always present in a nursery.

They concluded that isolation does not diminish the incidence of the disease among infants and that the expense of isolation is unnecessary. The authors are Philip J. Kozinn, M.D.; Harry Wiener, M.D.; Clare L. Taschdjian, B.S., and James J. Burchall, B.S., Brooklyn.

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Acetylsalicylic Acid gr. 3½
Caffeine gr. ½
Codeine Phosphate gr. ½
NO. 4 Acetophenetidin gr. 2½
Acetylsalicylic Acid gr. 3½
Caffeine gr. ½
NO. 4 Acetophenetidin gr. 2½
Acetylsalicylic Acid gr. 3½
Caffeine gr. ½
Codeine Phosphate gr. ½
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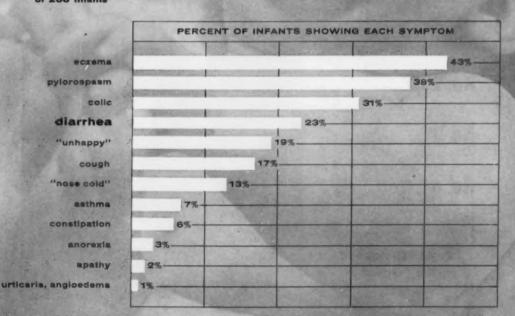
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cow's milk allergy

"About 1 of every 15 bables is allergic to cow's milk."

Varied symptoms of cow's milk allergy observed in a study of 206 infants³



All of the listed symptoms were relieved by substituting soys formula for cew's milk formulas

Sobee Specify

relieve Diarrhea

and other symptoms in the milk-allergic infant . . .

for treatment /

In a study³ of 24 infants allergic to cow's milk, it was reported that when the infants were fed Sobee, "Weight gain was satisfactory in all cases during the periods of observation. For the most part stools were of normal colour and were soft in consistency ... in contra-distinction to the very loose stools that resulted when many of the patients received cow's milk."

Sobee was fed to 102 infants with cow's milk allergy: "The stools were of a normal pattern, non-staining, non-loose, and non-malodorous."4

for prevention /

When allergic tendencies exist in the parents or siblings, it is prudent to start the "potentially allergic"5 newborn on a milk substitute, such as Sobee.

for diagnosis /

When cow's milk allergy was suspected from the presenting symptoms, it was found that "it was simpler and easier to remove cow's milk from the diet for a twenty-four to forty-eight hour trial period and substitute soybean milk than start an allergic study . . . "2

references: |

Clein, N. W.; Modern Med. 24: 69-75 (Feb.) 1998. 2. Clein, N. W.; Pedial. Clin. North America, Nov., 1984, pp. 949-982. 3. Collins-Williams, C.; Canad. M.A.J. 75: 934 (Dec. 1) 1958. 4. Kane, S.; Am. Pract. & Digest. Treat. 8: 65 (Jen.) 1967. 5. Glaser, J.; Allergy in Childhood, Springfield, Ill., Charles C Thomas, 1986, chap. 67, p. 64.

to relieve milk-allergy symptoms while maintaining sound nutrition . . . specify

Sobee

Hypoallergenic saya formula, Mond Johnson liquid · "Instant" powder





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THIS IMPORTED DECORATOR'S PIECE MAKES AN OUTSTANDING GIFT OR PRIZE THAT SURELY WILL BE TREASURED BY ITS RECIPIENT. COMBINING GRACE AND A TOUCH OF HUMOR, IT WILL ADD A NOTE OF CHARM TO A PHYSICIAN'S OFFICE OR HOME.

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MEDICAL TIMES OVERSEAS, INC. DEPT. M. 1447 NORTHERN BOULEVARD MANHABBET, NEW YORK

DIAGNOSIS, PLEASE

(Answer from page 33a)

Intussuscepting Lipoma in the transverse colon. Notice the widening of the transverse colon by a radiolucent mass.

WHO IS THIS DOCTOR?

(Answer from page 69a)

DAVID HOSACK

MEDIQUIZ

(Answers from page 75a)

1 (A), 2 (D), 3 (C), 4 (D), 5 (E), 6 (B), 7 (C), 8 (C), 9 (E), 10 (D), 11 (E), 12 (B).

WHAT'S YOUR VERDICT?

(Answer from page 53a)

On appeal, the Supreme Court reversed the decision of the trial court and ordered a new trial, holding:

"This was the first child for this couple and the jury could find that they were not necessarily negligent in failing to recognize the true facts and to give the doctor a more accurate description of the situation. Because of the previous flowing the doctor knew that the chances were against a normal delivery. If the defendant had been in attendance, medicines could have been prescribed to relieve the patient's pains. The mere assuring presence of the physician at such a time would have been of comfort to which the plaintiff might be found entitled."

Based on decision of Supreme Court of New Hampshire for unmatched tolerance and optimal absorption in all iron deficiency anemias — and especially when iron absorption is defective



MOL-IRON is well tolerated by 97.9% of patients. 1-10 In contrast, 22.4% of patients receiving ferrous sulfate and other forms of iron show g.i. side effects. MOL-IRON is not just an ordinary iron salt. MOL-IRON is a specially processed, co-precipitated complex of ferrous and molybdenum salts.

VITAMIN G is nowadded to MOL-IRON because—"Optimal absorption of iron is best assured by administering it in the ferrous form with ascorbic acid..."11 Each tablet contains: MOL-IRON (ferrous sulfate 195 mg., and molybdenum oxide 3 mg.) plus Ascorbic acid 75 mg. Bottles of 100. Dose: 1 or 2 tablets t.i.d.

White Laboratories, Inc., Kenilworth, New Jersey



REFERENCES: 1, Brit, M. J. 1-407, 1952. 2, Bull, Margaret Hagus Mat. Hosp. 1:68, 1948. 3, Am. J. Obst. & Gyn. 57:541, 1949. 4, Connecticut M. J. 14:930, 1950. 5, J-Lancet 66:218, 1946. 6, Am. J. Obst. & Gyn. 62:947, 1951. 7, Am. J. Med. Sc. 212:76, 1946. 8, Obst. & Gyn. 5:201, 1955. 9, J. Ped. 41:10, 1950. 1952. 10, Pennsylvania M. J. 51:999, 1948. 11, Ann. Int. Med. 42:458, 1955.



Covering the Times

Our cover painting featuring "Sam Space, Jr." and officers of the Air Force School of Aviation Medicine is most timely. This month, November, the school dedicates its brand-new facilities at Brooks Air Force Base, Texas, and space medicine takes another step forward.

The two scientists shown in Stevan Dohanos' painting are Capt. Harold L. Bitter (left) and Capt. Roger A. Yeary. Their "patient" is a rhesus primate, otherwise known as Sam Space, Jr. His name was not a random selection. It derives from S.A.M., the initials of the School of Aviation Medicine.

Capt. Bitter is a research physiologist who

Tony Dohanos (left), usually blasé about his dad's work, showed real interest in this cover. Cowboy pal liked it, too.



holds a Ph.D. degree from the University of Rochester. A veteran of World War II, he is married and the father of three children. He is an amateur carpenter and an avid golfer who shoots in the low 90's. Capt. Bitter states that his special professional interest is respiratory physiology, including performance physiology and the effects of radiation on respiration. He is a member of the Department of Radiobiology.

Capt. Yeary, Assistant Chief, Department of Veterinary Medicine, is a Doctor of Veterinary Medicine who received his professional training at Ohio State University. He is married and the father of a one-year old girl, Karen. Like his colleague, Capt. Yeary enjoys woodworking and turns out tables, chairs, bookcases and other furniture. He is a member of the National Animal Care Panel, a group devoted to improving the care and use of animals subjected to medical research.

The third figure in the painting, Sam Space, Jr., was born and raised at the School of Aviation Medicine in San Antonio, Texas. He proved temperamental when it came to posing, fidgeting and being generally uncooperative. But then a pretty young secretary appeared on the scene. "Oh isn't he cute," she cooed. The feminine touch did the trick. Sam settled down and held the pose shown in our painting.

Like a full color reproduction of any of our cover paintings? They're printed on wide margin paper, ready for framing. Send 50c for a single print or \$2.50 for six (of a single cover or assorted).

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SHUTS OFF PAIN BLOCKS OUT FEAR ANYTIME, ANYWHERE, WITHOUT NEED EVEN FOR A GLASS OF WATER

because prodromal warning usually tells patients that the time to arrest imminent migraine attack is right now, and the place to do it is right here.

SUBLINGUAL ERGOTAMINE TARTRATE TABLETS

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All the patient has to do is to place a tiny ERGOMAR tablet under tongue. It enters blood stream directly through buccal lining, bypasses stomach and hepatic system and aborts vascular headache and migraine in approximately one half the usual time of ingested tablets.¹⁻⁵ Dosage: Sublingually, 1 tablet at onset of attack. Additional doses may be taken, if necessary, as follows: 1 tablet every half-hour until relief is obtained. Total dosage must not exceed 3 tablets within 24 hours.

Contraindications: Peripheral vascular and coronary heart disease, hypertension, renal or hepatic dysfunction and pregnancy.

Supplied: ERGOMAR Tablets, 2 mg. ergotamine tartrate per tablet, in specially developed dispenser packages of 12 tablets. May we suggest for patient convenience and economy, writing for not less than 12 tablets in a prescription.

References: 1. DeJong, R. N.: GP 19:147, 1959. 2. Scientific Exhibit, 9th Annual Meeting, Am. Acad. Neurology, Boston, Mass., April 22-27, 1957. 3. Berman, B. A.: Current personal communication in the files of Nordson Laboratories. 4. Saunders, S. H.: Current personal communication in the files of Nordson Laboratories. 5. Blumenthal, L. S., and Fuchs, M.: Am. Acad. Neurology, Los Angeles, Calif., April 15-18, 1959. Sublingual Administration of Ergotamine in Relief of Migraine and Vascular Headache.

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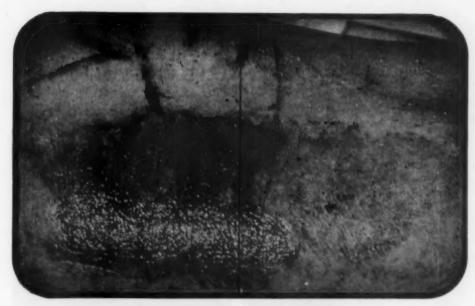
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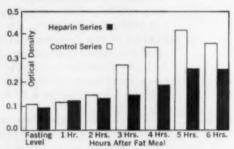
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- 1. Fuller, H. L.: Angiology 9:311 (Oct.) 1958.
- Shaftel, H. E., and Selman, D.: Angiology 10:131 (June) 1959.



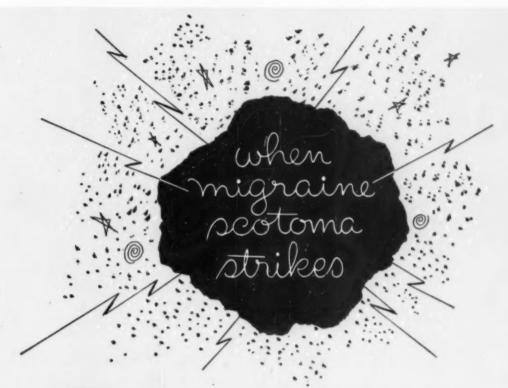
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